Marine Corps Gazette

JULY 1955

THIRTY CENTS

THE RESERVES!

Marine Corps Gazette

JULY 1955
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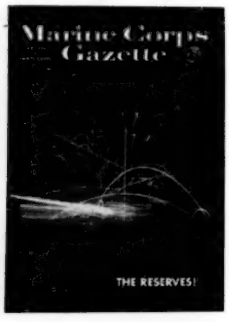

COVER

The pyrotechnics you see the evening of the July 4th celebration will pale in comparison with the spectacle afforded by the night firing exercise demonstrations planned for the thousands of Marine Reserves who will attend camp this summer at Marine Bases from coast to coast. Tanks of Charlie Co, 3d Tank Bn, firing on Combat Range #3 in the Fuji Maneuver Area, Japan, produced the unusual color transparency that furnished our cover this month. The shot that recorded the event for posterity and GAZETTE was fired by 1stLt Johnes K. Moore, USMCR while he was serving with the 3d MarDiv in Japan.

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not
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message center

The Square of the Hypotenuse

. . . It appears that LtCol Wade got into some deep water in his latest article *Arty Rockets to Kill Armor*. First his idea that mines are a relic in tank defense is a little bit too radical to let pass without comment. Anyone who has ever been faced with clearing mines to get tanks moving will take issue with his statement. However, let's get to his major proposal, that of using the 4.5-inch arty rocket as an AT weapon.

First I'll go along with the assumption that the ordnance people can develop the type of projectile needed — a 4.5-inch rocket with a chemical energy warhead (shape charge).

Now in examining the use Colonel Wade wants to make of this weapon it is found that he has completely neglected the basic problem of getting positive tank kills as they (tanks) attack the beachhead. Getting hits with this weapon would be a matter of almost pure luck, and at an almost prohibitive expenditure of ammunition.

Looking at the Table of Dispersion for the M16 Rocket (Spin Stabilized) . . . we find that at short ranges the longer axis of the pattern is along the line of fire. At long ranges the longer axis of the pattern is perpendicular to the line of fire.

Getting kills against armor with this weapon would then require maximum cooperation from the enemy attacking the beachhead with his tanks. Their formation must allow the friendly rocket battery to fire along the long axis of the armored formation at minimum range and mid-range in order to take advantage of the range dispersion characteristic of this weapon, and then give us a nice wide target to shoot at to take advantage of the increase in lateral dispersion at long range. This is just the opposite to what he would be doing. . . .

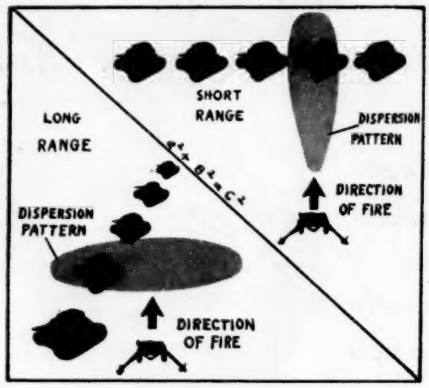
The weapon is designed to put a large volume of fire in a large area in a short period of time primarily against personnel and light vehicles. Putting a different warhead on the rocket won't change the built-in inaccuracy of the weapon. To kill a tank you don't want "shot gun" effect, but deliberate aimed fire at a specific target and not indirect fire with an area weapon.

LtCol Wade entirely neglected his primary gunnery problem in his latest idea.

LtCol Richard S. Johnson
Newport, RI

. . . As a former member of the 1st Provisional Rocket Detachment serving with the 4th MarDiv at Saipan, Tinian and Iwo Jima during World War II, I noted with much interest the article in the May 1955 Gazette by LtCol John J. Wade, Jr.

Assuming from the title and accompanying photographs that this was one Gazette story I couldn't miss, I was



much let down by the actual story content. No doubt the Colonel has the right idea, but truthfully, *Wasn't the story titled wrong?* Shouldn't it have been something more along the line of *A New Anti-Tank Weapon Needed* or *AT Mines Obsolete.*

Having been away from rockets since the end of World War II, I am not familiar with their mission at the present, or as used in Korea. However, the WWII type (4.5BR) was as the Colonel mentioned, an area weapon. Of course, our launchers were the automatic, gravity feed type rather than multiple tubes firing individual rounds. In fact, we tried out the multiple tubes at the V Phib Corps Rocket School on the island of Oahu in early 1944 and they were turned down in favor of the gravity feed launcher.

The Colonel writes a most interesting story. However, in order to do justice to the titled *Arty Rockets to Kill Armor* and rockets and rocket personnel, he should set right down and whomp up a sequel. And this time, tell about the ROCKETS.

MSgt G. W. Courtney, Jr.
H&S Bn, FMF Pac

Ah Ha!

. . . A well done to Colonel Henderson on his article *Gruntled.* I do feel, however, that many of his comments are subject to some conjecture.

After reading the Colonel's article, my curiosity got the best of me and I peeked into the Combined Lineal List. After finding that the author had attained his coveted rank of Colonel after 16 years of service, 9 long years ahead of the normal promotion rate, I would say that the Colonel's expression that he is *Gruntled* with the present promotion system, is the understatement of the year.

Capt P. X. Kelley
3d Mar Div FMF

Defined

. . . Leadership and leaders! Two qualities that are the quintessence of our Corps. Recently reading an article (of all places in my college fraternity magazine) on *Effective Leadership,* I happened upon a sentence that, in my opinion, pretty well sums up this intrinsic ever-sought-after quality (or qualities if you prefer). It was expressed in the definition of a leader. For the record I herein quote: *A Leader is one who is able to release and co-ordinate the abilities and energies of others in the service of a definite cause.* Not bad, huh?

Capt Karl D. Morrison
Quantico, Va.

Preventive Maintenance

. . . Now that the Korean Conflict and its blanket promotions are over with, let's start training our junior NCOs correctly.

How many NCOs get to carry the Colors in parades until they make SSgt? This applies not only to Colors and parades, but to all supervisory work. Let's train our NCOs while they are juniors, then when they are promoted to staff grade they will not have to study what they should already know.

Let's start early on our NCOs!

TSgt I. R. Stone
San Diego 40, Calif.

Snap Judgment

. . . Since many column inches are devoted to suggestions and constructive criticism I would like to offer a few pearls.

All those who have ever had anything to do with Marine Corps files know the cumbersome way we are presently filing our material. I am not speaking of the filing system but of the mechanics of filing the papers themselves. The old Acco fastener has long been the plague

"WHAT! NO KITCHEN TELEPHONE?"

Of all things, Mr. Bridegroom! Surely you don't expect that lovely new bride to get along without a telephone in the kitchen!

Maybe there was a time when one telephone seemed enough, just as one radio and one bathroom and one car seemed enough.

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In the living room, of course. In the kitchen, conveniently hung on the wall. In the bedroom, to save steps and for added peace of mind both day and night. For the son and daughter who'd like telephones of their own, with separate listings.

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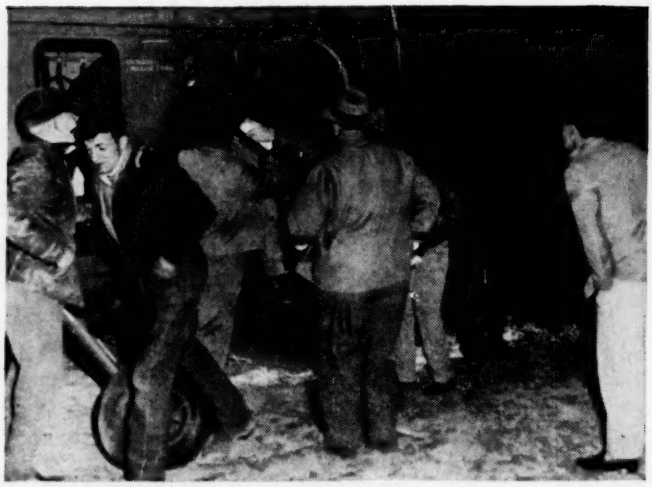
HELICOPTER LEADS DISASTER DRILL—The U. S. Coast Guard and the American Red Cross combine forces to practice highly effective rescue techniques in a simulated disaster. The drill took place off Brooklyn, New York. Having led two surfboats to the beach, a Coast Guard Sikorsky HO4S hovers nearby to effect any further rescues necessary. Versatile Sikorsky helicopters see extensive service in Coast Guard units.

AROUND THE WORLD WITH SIKORSKY HELICOPTERS

CONGO COPTER—Sabena Belgian World Airlines officials prepare to test one of three Sikorsky S-55 helicopters soon to fly over Belgian Congo jungles. The helicopters will spray and dust insecticides in the never ending battle against disease-bearing insects. Sabena will operate these S-55s along with the S-51s which pioneered this jungle work in the Leopoldville area.



HELICOPTERS RESCUE 93—Two H-19 Sikorskys from the U. S. Air Force's Air Rescue Service last March rescued 93 men, women and children from a storm-swept South Carolina lake. They were stranded on sandbars and small islands when violent storms struck suddenly. The helicopters made more than 23 trips to bring the marooned people to safety on the mainland.

ARMY GETS FIRST H-34s—Two big H-34s, Army versions of Sikorsky's new S-58 helicopter, take off on their delivery flight. First deliveries of this model began in March. The H-34 provides a substantial increase in size, capacity and performance over the Sikorsky H-19s already in wide use by Army units. The big H-34 has as its Navy counterpart the anti-submarine HSS.

HELICOPTER HISTORY:

First helicopters sent overseas by the Army

In November, 1943, the first helicopters to be sent overseas, Sikorsky R-4s, were delivered at Stratford, Connecticut to the Army Air Force. They were disassembled and loaded into cargo planes for the long flight to the China-Burma-India war theatre.

SIKORSKY AIRCRAFT
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of file clerks. One of the biggest problems is the insertion of changes to orders and memos and the like. For example; if in 1955 a change comes in for Marine Corps Memo 10-54 the clerk must remove all the memos back to 10-54 insert the change and replace the memos. After a few times the fastener becomes bent and twisted out of shape; the holes in the paper become enlarged or torn completely and the file takes on the appearance of a stack of old paper.

My suggestion — a loose leaf folder should be devised and memos, orders etc. be printed so as to leave enough left hand margin for perforations. The folder should open as does a book rather than up and down. Now it can be readily seen that when changes have to be made the clerk would simply open the *file book* to the appropriate page, snap open the fasteners, insert the change, snap the fasteners closed and the job is done. The same procedure would be followed when removing obsolete and revoked material.

The end result would be: (1) neater file, (2) considerable time saved, (3) better accessibility to the material, (4) a general overall more efficient operation.

MSgt Thomas F. Korner
Newark, NJ

"*Much Ado About Nothing*"

. . . The Gazette usually contains at least one article recommending a change in something and the Message Center has its share of complaints and suggestions.

Too often, we hear and read that the system is wrong, that it needs overhaul or worse, a new system is required. Too many confuse application and concept when recommending changes. Many of these concepts and principles which are criticized have withstood changes in methods of conducting warfare long after they were developed. In effect these principles and concepts have developed a timelessness. This cannot be said for methods. When Shakespeare wrote that the old order changes, yielding place to the new, he did not mean that principles and guide lines change. To the contrary, it is those who follow these principles and the methods employed that may need changing.

LtCol W. F. Frank
HQMC

Life Begins

. . . Lieutenant Colonel F. O. Hough's article *How Old is Old?* which appeared in the April issue gave the reader the impression that we are living in an age of old and doddering generals with the accent on old age rather than youth.

To give impetus to this argument was a rather exhaustive list of juvenile generals who gained historical note in the days of yore at the tender age of between 20 and 40 years.

A cursory perusal of the life expectancy tables, however, shows that Gustavus Adolphus won his first victory on the threshold of his expected life span and was killed in battle 3 years after he normally would have died of natural causes. And Julius Caesar was no less than twice the age of the average male Roman when he gained his military fame.

Now in the United States men have a relatively long life of 67 years. Fifty years ago the average taxpaying citizen met his Maker at 48.23 years.

It isn't unusual then, that today our high ranking battlefield generals should be edging 60 with many useful and energetic years ahead of them. The complicated machines of war do not dictate the ages of our leaders but rather it is the remaining years of useful military service. Why else is the mandatory retirement age set at 62 if not to force attrition so younger men can move up? Certainly we have many hale and hearty Marine Corps officers at the "graveside" age of 60.

Maj C. R. LaPlant
Ft Bliss, Tex.

Attention!

Are you a member of the Marine Corps Association? See page 8 for details on the new automatic renewal plan.

Don't Poach

. . . The following comments are submitted regarding *This Business of Aviation Intelligence* in the February 1955 issue.

The article has an interesting approach and is basically sound. In general, it presents excellent advice to *freshmen* intelligence officers. However, I cannot agree with the portion of the article that refers to some secondary duties which may be assigned the S-2 in the unit's SOP.

Security classification control is one of the *primary* functions of the intelligence section. If there is only one officer assigned to the intelligence section, then he *must* be assigned the additional duty of security officer.

The custodian of classified files should *not* be the Intelligence Officer but should be the Adjutant, who has the responsibility of maintaining the office of record for the headquarters, including the custody of classified documents, as outlined in the *Staff Manual.*

Public information should not be a function of the Intelligence section. The two ideas are basically incompatible. The *Staff Manual* clearly defines the area of responsibility that includes public information. Public information is an element of morale. Leave it with the S-1 section where it belongs!

Historical reporting should not be done by the Intelligence Officer during the times of peace but should be done by an assigned Historical Officer working as a Special Staff Officer.

The procurement of publications for an aviation organization and the maintenance of Section K is *not* a function of the intelligence section. The Publications Officer should be assigned to the engineering and/or maintenance department because that department is the primary user of publications. However, the Intelligence Officer should monitor the procurement of all the publications that *he* needs for the operation of *his* section. He also has the primary responsibility in the determination of requirements and types of military maps, aerial photographs, surveys; (co-ordination with map reproduction agencies), and supervision of map distribution as outlined in the *Staff Manual,* and as mentioned by Captain Johnson.

Aviation Intelligence work *is* interesting. But there is plenty of work to be done in one's own area of responsibility. Don't poach on the other sections. Recommend to the skipper that approval be given to organize the squadron sections as outlined in the *Staff Manual.* Then stick by it. *Stay in your own back yard!*

Major Paul A. Noel, Jr.
Cherry Point, NC

Don't!

. . . The following are some of the things that Marines used to refrain from doing. These are now habits formed by many Marines including NCOs (who should be enforcing the opposite) and Staff NCOs (who should be setting a better example) and Junior and Senior Officers (who should be setting the best example). Everyone must be forcefully reminded that Marines do not do the following:

Hands in pockets.
Leaving barracks area without being buttoned up.
Cuffs on utilities.
Keys dangling from belt loop.
Exceeding speed limits on the post.
Dress shoes with utilities.
Walking on grass, almost tripping over the sign.
How many more can other readers

add to the list, for a beneficial reminder?

This is not limited to any one post or station. At least 3 stations I have served at, I have seen these violations committed even by very senior officers.

2dLt Willie L. Lowe
Camp Lejeune, NC

Excellent Raw Material

. . . In regards to the letter *DIs for Recruiting* — If the DIs can't make Marines out of the recruits they are receiving today, I doubt that it is the recruits' fault entirely. Today's applicants are all of the upper mental group categories and are Profile "As" with a few "Bs," which is considered physically tops. This type enlistment is brought about, of course, by the small present-day quota. I don't believe that any DI can justifiably complain about the type recruits he is getting now. NCOs who are on recruiting duty are just as much or more aware of the type recruits or applicants the Marine Corps wants, as any ex-Drill Instructor could possibly be.

SSgt C. W. Clingman
Vincennes, Indiana

Center Hold

. . . Many articles on the subject Center Hold, have been written in the Gazette and in other military magazines. Of these articles I have never seen a derogatory remark about this method of aiming.

I remember in particular an article by Capt Henry J. Witkowski which appeared in the Gazette about 15 months ago on the subject of center hold. I've learned since then that quite a few experienced rifle shooters use the method of aiming at the exact spot where the bullet is meant to strike. I have always wondered, and I'm sure other Marines have the same question, why does the Marine Corps request us to aim 5 inches below the strike of a bullet on an "Able" target and 10 inches below the strike of a bullet on a "Baker" target?

I believe that the proper place to aim would be at the place where the bullet is to strike. Then when we go into combat and a target is sighted we won't have to aim below it but at it.

SSgt Russell L. Schmidt
3d MarDiv, FMF

Authority's Responsibility

. . . I request permission to reproduce the article *Pride of Uniform* which appeared in your May issue.

The article . . . will be, in my opinion, a valuable aid in my training efforts. Other . . . officers have expressed a desire for copies which they also can circulate.

Needless to say, I personally subscribe whole-heartedly to the theme of Sgt Shaw's piece.

I am not convinced that the problem is as great as he would have us believe, but in my mind there can be no escaping the responsibility inherent in authority to set the proper example for juniors.

Capt R. J. Perrich
Annapolis, Md

Bow Tie?

. . . My husband has just received from one of our sons, the new Marine Corps civilian tie. We think it very beautiful. However, both of our sons in the Marines only wear bow ties, when in civilian clothes. Couldn't these be made of the same material for all those Marines who prefer them to four-in-hands?

Mrs John J. Dolan
Brooklyn 9, NY

Guerrillas in Modern War

. . . I am pleased to see the increased emphasis placed on guerrilla warfare in the pages of your magazine. In this day and age when war may more appropriately be entitled civil war and when no man knows whose hand may be turned against him, it is of the utmost importance to be cognizant of the tactics and techniques of guerrilla warfare and methods of combatting it. For we are faced by nations who espouse the principle that war in the rear in all its many shades of the spectrum—sabotage, propaganda, anti-militarism, infiltration, espionage, para-military action etc.—is a part of the natural scheme of waging modern war; this principle being implemented by an international party which combines efficiency and revolutionary fervor with military organization and discipline to accomplish its objectives. A repetition of the error made by Hitler and the German General Staff in underestimating Communist guerrilla potential may well mean disaster for this country; if and when we fight the next war. Therefore, any contribution, small as it may be, is of infinite value in increasing our knowledge of a relatively misunderstood and unappreciated method of waging modern war.

Major R. D. Cullison
Columbus, Ohio.

Speak Up!

. . . After reading Capt Tatum's remarks (re Toastmasters) in the April Message Center, I feel that he has failed to grasp the basic purpose behind the Toastmaster organization. That is, personal improvement of speaking abilities by detailed and constructive evaluation.

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I feel that to be a good instructor one *must* be able to speak. He must be able to put his subjects across to the class. The latent ability to speak is brought into the open by Toastmasters Training, the Marine Corps Extension School Courses and Instructors' Orientation Courses.

We have all seen classes where at least half of the students sat staring out the windows or fought to keep themselves awake. Although the instructor knew his subject, he was unable to intelligently speak about it in a vivid and forceful manner.

Proper application of the principles put forth by Toastmasters can and will result in better speaking, better thinking, better listening and better program planning, all of which are very vital to an instructor if he wishes to make good.

It behooves everyone of us, who at sometime or another are called upon to instruct a class, to strive for better speaking. A good speaker is always welcome, regardless how much the men to be instructed know about the subject, instead of the usual indifferent attitude towards a poor instructor.

SSGT FREDERICK STEINBERGER
HAMS-13, MAG-13,

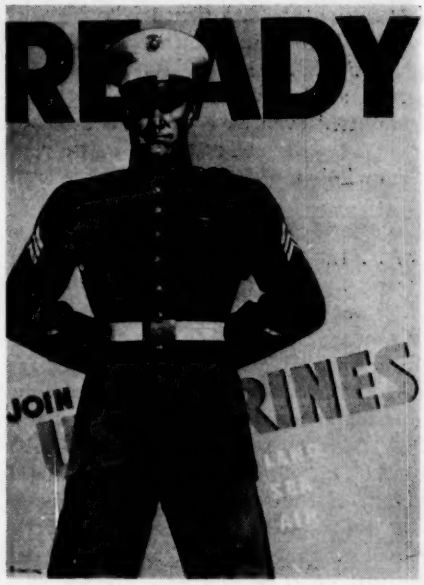
Where Did He Go?

The Marine on the billboard poster is the type that the American people expect to see walking down the streets of their home town, neat in appearance, straight as a ramrod, proud as a peacock and, if addressed, courteous.

It seems in the past few years that we've lost that type of man and in his place we have one who doesn't seem to care. In the past few years traveling around posts of the Corps, I've been both amazed and ashamed at what I saw on MP duty and standing guard at our main gates. Sloppy salutes, unpressed uniforms and bad manners seemed more like the order of the day instead of the old sharp-looking, firm acting, courteous sentry or MP of the past. Why?

I've heard it said that it was the draft — a man wanted to do his required 2 years and just get. Myself, I don't think so. I think the trouble stems from the duty assigned the man when he leaves boot camp. It seems that the majority of the men are sent either to some good duty post or station within the Corps or to a school, with very few going to a division. With most duty stations being a 2-year tour, these men never really get to know the Marine Corps or what is expected of them as Marines.

Why can't we adopt a policy where all Marines upon leaving boot camp will report for duty with an infantry unit? This way we can thoroughly train the man while he is in the right frame of mind and make him realize that we are



primarily a fighting outfit — every man jack of us.

Why will this training benefit the man more than say a guard company? Well, first he will be learning from personal experience through field problems, and the every day problems of his fellow men.

Starting out in the rifle squad or mortar squad he'll see how the men with the initiative, force and aggressive manner are moved up to positions of responsibility and he'll strive for that also. He'll be trained by NCOs and officers who are proud of their outfit and will never let him forget it. The daily inspection will soon teach him to be neat and squared away if he wasn't before. He'll learn that the average line officer wants a hard-charging man who can think on his feet, not the Casper Milquetoast-type who knows all the answers but doesn't have the get-up-and-go to accomplish the mission. Before long you have your Marine, not some kid just wearing the uniform.

Now when the man's time is almost up you can use the choice duty station as an incentive to make the Corps his career. You know that he can and will go out before the public now looking and acting like a Marine should. He will be sure of himself and proud of the uniform he wears.

If by chance a war were to come along and this man was sent to you as a replacement you would feel assured that he knew his job and his duty. For in any future wars, as in WWII and in Korea, we of the Marine Corps will be there to push the attack and destroy the enemy. We will know our Marine's training is complete and he needs no excuse.

MSGT ANDREW C. SCHIPKE
Camp Lejeune, NC

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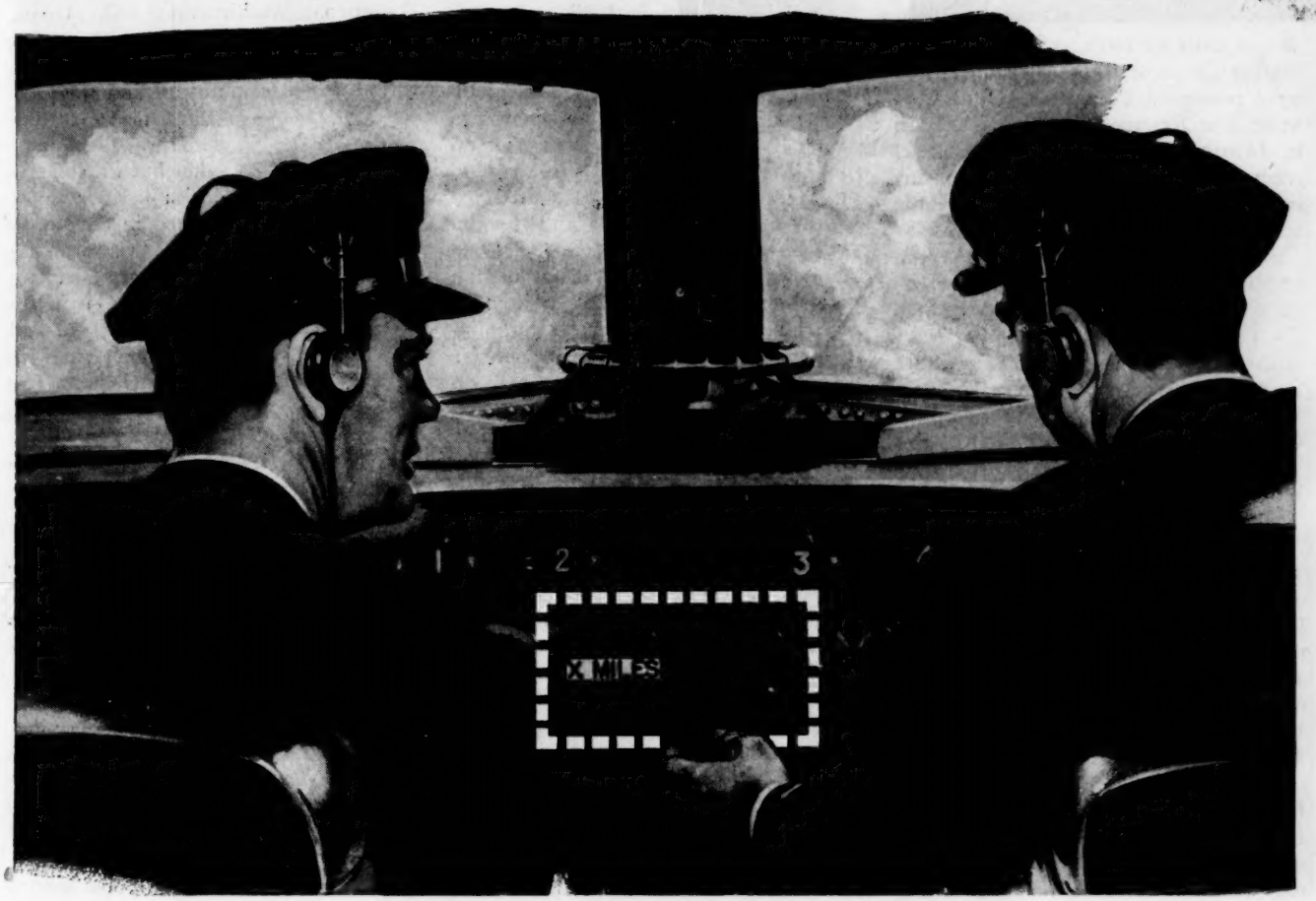

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introducing

A TOUR OF DUTY AT HEADQUARTERS Marine Corps as ExO, Division of Reserve prompted **Col Alfred L. Booth,** to write *The Reserves!* on page 12. Born in Nottingham, England the Colonel graduated from the US Naval Academy in 1938. He was a student at Basic School (Philadelphia) during 1938-39 and upon leaving Basic school he was assigned to the MB, Philadelphia Navy Yard. From there he went to The Base Defense Weapons School at Quantico and after being graduated commanded a 90mm company in the 6th Defense Battalion on Midway. He returned to the US in late 1943 to take over a battalion in the Training Regiment, Camp Lejeune and then in 1945 he attended the Command Staff School in Quantico. During 1945 and 46 he was ExO of the 18th AAA Bn on Saipan. He was again assigned to Camp Lejeune as CO 1st AAA Bn and then in 1948 he was ordered to the US Naval Academy as an instructor in Ordnance and Gunnery. He had his tour with the Division of Reserve and then went to Senior School. At the present time Col Booth is ACoS, G-1, 3d MarDiv.

COL BOOTH

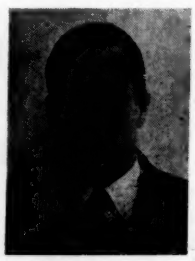
Captain Eugene J. Paradis uses his background as an enlisted man for over 7 years and almost that long as an officer for his article on page 58 — *10th Platoon Infantry Battalion.* Commissioned via the Meritorious NCO Program in 1948 he is presently an instructor in the Mortar Section, Weapons Group, Basic School, MCS.

NOW SERVING AS A COMPANY OFFICER at Basic School, **Captain C. V. Judge,** author of *Format* on page 32 was commissioned via V-12, in 1945. He served a tour of duty with the 1st MarDiv in China during 1945-46 and was released from active duty in 1946. From 1946 to Oct 1951 he continued his schooling, received his BA at Dartmouth and took his MA at the University of Pennsylvania (1948-49). Recalled to active duty in 1951, he completed the Junior Course and then served with the 1st MarDiv in Korea as a company commander and in staff billets.

CDR CARRISON

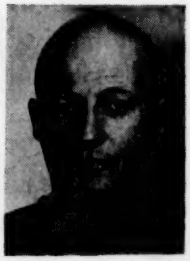
Cdr Daniel J. Carrison, USN is the author of *Death Rode the Divine Wind* (page 40). A graduate of the US Naval Academy in 1939 he was appointed from the enlisted ranks in 1935. Upon graduation he spent two and a half years on the USS *Trenton.* He transferred to the Supply Corps in 1941, attended Supply School at Harvard and then in 1943 he went back to line. The Commander's explanation of his transition from line to Supply Corps to line: "I received a conditional 2-year appointment upon graduation due to defective vision, transferred to Supply Corps in the fall of 1941. After the war started I kept heckling to get back into line, my promotion exam to Lieutenant found that my vision had improved — after 5 special physical exams they let me switch back to the star on my sleeve." During WWII he served as gunnery officer on the USS *Biloxi,* USS *Pittsburgh* and the USS *Yorktown* and in 1946 he was assigned to the USS *Manchester* as navigator. He was Captain of the USS *O'Bannon* during 1951-'52. Commander Carrison is presently commanding officer of the USS *Wilkinson* (DL-5), one of the new destroyer leaders, designated a "frigate."

THE AUTHOR OF *No Easy Way* ON page 24, **George K. Tanham,** has an impresive string of degrees after his name —AB, from Princeton, AM and PhD from Stanford. He is now associate Professor of History at Cal Tech teaching modern European history, modern wars and current affairs. Professor Tanham was commissioned in the Army in 1943 and is now a captain in the Reserve. During WWII he spent 3 years in Western Europe with the 7th Armored Division. He modestly listed his war record in 2 lines but his medals and awards took 4 lines; they include among others the Silver Star with Oak Leaf Cluster, Purple Heart, Air Medal and the *Croix de Guerre* with Silver Star. Released from active duty in 1946 he received his AM at Stanford in 1947 and accepted an instructorship at Cal Tech in History the same year. In 1951 he received his PhD and in July 1954 was appointed Associate Professor of History.



PROF TANHAM

CURRENTLY SERVING AS AN INSTRUCTOR in the Senior School (communications) **Maj John J. Reber** wrote *Planning for Atomic War* on page 34, because as he puts it, "I felt there was a need for it." He enlisted in the Marine Corps in Nov 1936 and subsequently served at Quantico, Washington, DC, Guam, Shanghai and Peiping. While serving with the III Phib Corps in 1942 he received a field commission and was integrated as a regular officer. The Major has been a communicator since he enlisted in the Corps. He served as NCO in charge of the ham station on Guam in 1939 and after receiving his commission he served as III Phib Corps Signal Officer from 1942 to 1945 and participated in operations at Bougainville, Emirau, Guam, Peleliu and Okinawa. Released from active duty in June 1946 he served as Training Officer and Exec of the 11th Signal Co, USMCR until recalled to active duty in June 1950. His background for his article came from the Atomic Warfare Course at TI, San Francisco, Calif. which he attended in 1951.



MAJ REBER

A TEXAN BY BIRTH AND A MARINE by choice, **LtCol Robert E. Collier** wrote *Fair Weather or Foul* on page 54. Since he joined the Corps he has completed 6 service schools including Field Artillery, Chemical Corps and Senior School. During WWII he served with the 1st MarDiv, 1st 155mm Artillery Bn and the III Phib Corps. He later became director of the Air Observer School and saw duty with the 2d MarDiv. He is currently serving with the New Developments and Operations Evaluation Division, Office of the CNO.

PRESENTLY SERVING AS AN INDEPENDENT research consultant, **Thomas Wilds,** the author of *The Japanese Seizure of Guam* on page 20, worked on the Special Staff of the Chief of Military History US Army from 1950-54. He wrote reports for two and a half years on the Japanese side of the following operations: Makin, Tarawa, Kwajalien, Roi-Namur, Eniwetok, Saipan, Tinian and Guam. He entered the Army in 1944 and was commissioned in Oct 1945. In 1946 after Japanese language school he worked as translations officer in Tokyo and in December 1946 he went to Seoul as translations officer. Released to inactive duty in July 1947 he has served in the active reserves since that time. His MA is in Far Eastern studies from the University of Michigan.

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The purpose for which the Association exists is to disseminate knowledge of the military art and science among its members, and to provide for their professional advancement; to foster the spirit and preserve the traditions of the United States Marine Corps; to increase the efficiency thereof; and to further the interests of the military and naval services in all ways not inconsistent with the good of the general government. (Article I, Constitution of the Association.)

Members who wish to bring Association matters to the attention of the President will address themselves to him via the Secretary-Treasurer, Col C. A. Roberts, Marine Corps Schools, Quantico, Va. Members who desire to submit professional papers for discussion are invited and encouraged to do so by submitting them in manuscript form to the Editorial Board of the official organ of the Association, The Marine Corps Gazette. Manuscripts should be addressed to The Editor and Publisher, Marine Corps Gazette, Marine Corps Schools, Quantico, Va.

Any member of the Armed Forces of the United States, or any former member separated under honorable conditions from these services, shall be eligible for membership in the Association and upon payment of such annual dues as may from time to time be established by the Board of Governors will be entered as an active member of the Association in good standing.

Founded 25 April 1913 at Guantanamo, Cuba, by John A. Lejeune

Ad Hoc!

ON THE FACING PAGE you will read the thumbnail sketches of a few of the members of the Marine Corps Association who have seen fit to "disseminate the knowledge of the military art . . . " through the journal of the Association, the Marine Corps Gazette.

It was for this purpose that the Marine Corps Association was founded — the Gazette came later and was established to furnish a medium of communication for these ideas among a membership that grew from a handful of hard core professional officers grouped around John Archer Lejeune at Guantanamo, Cuba in 1913 to the present fraternity that has swelled the ranks of the Association to more than 60,000 members.

The Editors can take care of the technical details of planning the magazine and preparing professional papers for publication, staff artists can add the bric-a-brac and dressing necessary to attract attention to the article and make it easier to read. But the raw materials — the live ideas on tactics and theory, the action reports pointing up the bitter lessons of experience learned in the hard school of combat must come from the members.

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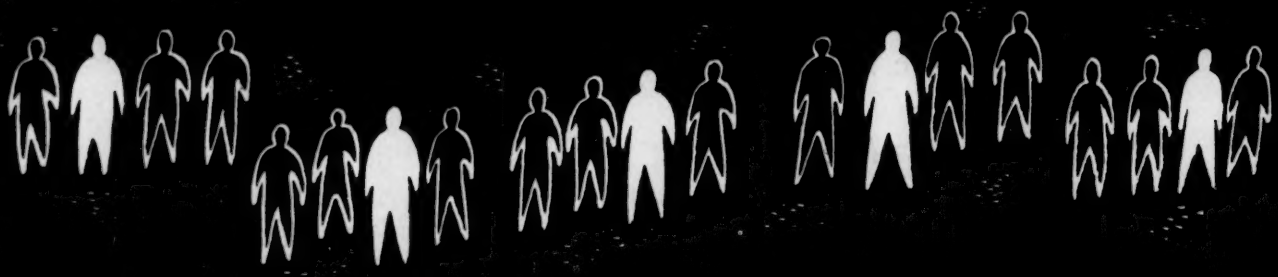
the RESERVES!



By Col A. L. Booth

They have been called out three times since they were established almost 40 years ago. Stronger than ever, once again they stand ready to fight side-by-side with the Old Breed

THE MARINE CORPS RESERVE has, in the past, been a bulwark of strength in times of war and national emergency. Its effectiveness when called to active duty is directly proportional to its organization and training during peacetime. The mobilization of the Reserve during the Korean emergency served to focus national attention on it and to cause a re-examination of reserve affairs by the Congress, the Department of Defense and the individual Services. International tension, which shows no indication of diminishing in the foreseeable future, places the Reserve Forces in a position of extreme importance in our military establishment.

It is the purpose of this article to examine the Marine Corps Reserve as it exists today and to present certain recommendations with a view toward strengthening the organization and maintaining it in the highest state of readiness for employment at some future date.

HISTORY

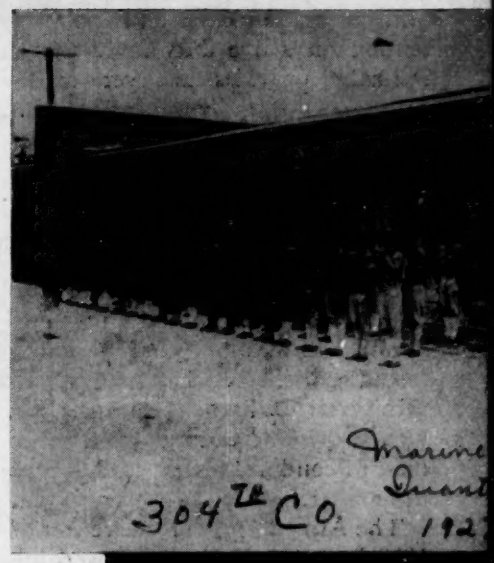
In comparison to the Marine Corps, its Reserve is a relatively young organization. It was established in 1916 when the National Defense Act of that year was made law. When the United States entered WWI the Reserve was composed of a mere 3 officers and 33 enlisted men. This insignificant number had increased to approximately 500 officers and 7,000 enlisted men by the end of the war and the Marine Corps Reserve, from the standpoint of personnel, was definitely established. Very little organization existed, however, until after 1925 when the Naval Reserve Act of that year provided the first authority for paid drilling and training units. Based on this authority the Marine Corps, in 1926, formed its first Organized Reserve units and named them Fleet Marine Corps Reserve Companies. This organization, consisting initially of WWI veterans, was gradually expanded by recruitment and in 1940 the Marine Corps mobilized 23 infantry and artillery battalions and 13 air squadrons consisting of approximately 350 officers and 6,500 enlisted men. Although the Organized Reserve had been trained and then mobilized as units, the members of these organizations were individually integrated into the various units of the regular establishment.

During WWII the Reserve grew by leaps and bounds and by 1946 the figure stood at a third of a million well-trained, combat-experienced officers and men. This tremendous pool of manpower, trained in a great diversity of military specialties, provided the means for reconstituting a better balanced Organized Reserve consisting of communications, engineer, mechanized, antiaircraft and women's units, in addition to the infantry and field artillery units of former years. This organization, following WWII, was an organization of volunteers who desired wholeheartedly to be affiliated with the Marine Corps Reserve for such reasons as patriotism, companionship, education, community prestige and, in some cases, compensation in the form of drill pay. This organization, consisting of 138 ground units and 42 air squadrons, composed largely of WWII veterans, was again completely mobilized in 1950 along with thousands of Volunteer Reservists who had merely been carried on reserve rolls since 1945 and who had never actively participated in reserve training. Members of the Organized Reserve were again individually integrated into organizations of the Regular establishment.

Reconstitution of the Organized Reserve, in its present form, began in the autumn of 1951 when the first Reservists were due for release from active duty. The Korean mobilization, following so closely on the heels of WWII, disrupted the lives of veterans of that war to a degree that it destroyed the desire of many to participate further in the Reserve Program. In addition, wives who had had their husbands taken away from their families on 2 occasions within the space of 10 years, reacted violently to thoughts of their continued participation. Similarly, employers became opposed to reserve affiliation after having lost skilled employees, otherwise draft exempt, through reserve mobilization.

RECENT LEGISLATION

The Universal Military Training and Service Act, as amended, approved 19 June 1951, authorizes the



drafting of personnel and their retention on active duty for 2 years. It further provides that every qualified man initially entering the Armed Forces or the reserve components thereof *automatically acquires an 8-year military service obligation.* In other words each individual serving 2 years of active duty, must remain involuntarily in the Reserve for an additional 6 years. It should also be noted that, although the title of the Act bears the words "Universal Military Training," no such provisions were adopted other than to conduct further studies into the matter.

The Armed Forces Reserve Act of 1952 is the basic US law governing the establishment, composition, administration and training of all Reserve components. Of particular importance is the fact that it establishes mobilization categories for all Reservists and designates who shall constitute each category and when, and under what conditions, these categories will be mobilized.

The Reserve Non-disability Retirement Act, Public Law 810 of June 1948, permits Reservists to qualify for retirement pay upon reaching age 60, provided they have completed 20 years of satisfactory federal service. Satisfactory federal service is based upon completion of active duty or active participation in some form of reserve training.

THE MARINE CORPS RESERVE TODAY

As indicated above the majority of Reservists were ordered to active duty in 1950 as a result of the Korean emergency. During this period plans were made for a larger and more comprehensive Reserve program than ever before. Reconstitution of the Organized Reserve and implementation of this new program began in October 1951. Actually the Organized Reserve was patterned after the one subsequent to WWII except for the fact that the number and variety of units was greatly expanded. Approximately 255 ground units and 42 air squadrons were planned and the majority have now been activated. The troop list contains a cross section of all the combat type units found in the Marine Corps plus a large number of service type and security force units. Examples of service type units are Automotive, Engineer, Ordnance and Signal Field Maintenance, Supply and Shore Party units. The security force units are called Special Infantry Companies and have been assigned the mission of providing trained personnel, who in the event of mobilization may be used initially to augment Marine detachments at Naval establishments throughout the US and overseas, and aboard Naval vessels. In addition, personnel of these units will be trained and qualified for later integration into the FMF.

Training of the Organized Reserve is similar in all respects to that conducted before the Korean mobilization. Each unit follows a training syllabus which is designed to develop it into an integrated unit, well trained in its specialty. All units conduct 48 paid drills annually and attend 2 weeks annual field training.

Reservists who do not become affiliated with an Organized unit may take part in the Volunteer Training Program which is designed for individual training. This program consists of correspondence courses, formal courses of instruction, associate training with Organized units of the Marine Corps and the other Services, and on-the-job training on a 15-day active-duty-for-training basis. The Volunteer Program is extremely comprehensive and provides adequate means for all Reservists to participate in some form of training should they so desire. However, since this article is primarily directed toward a study of the organization and training of the Organized Ground Reserve, no further elaboration of this phase of the program will be attempted.

The mission of the Marine Corps Reserve is primarily one of providing the necessary trained personnel to meet a mobilization requirement for National defense. The development of an organization and a training program for the successful accomplishment of this mission depends upon many highly complicated and sometimes contradictory factors. The growth and expansion of the Organized Reserve since WW II, together with the enactment of legislation previously mentioned, have created a number of additional problems. Who should participate in Reserve training and how should the Organized Reserve be organized and trained are questions that arise.

Engineers — among the 255 Reserve ground units

PARTICIPATION IN RESERVE TRAINING

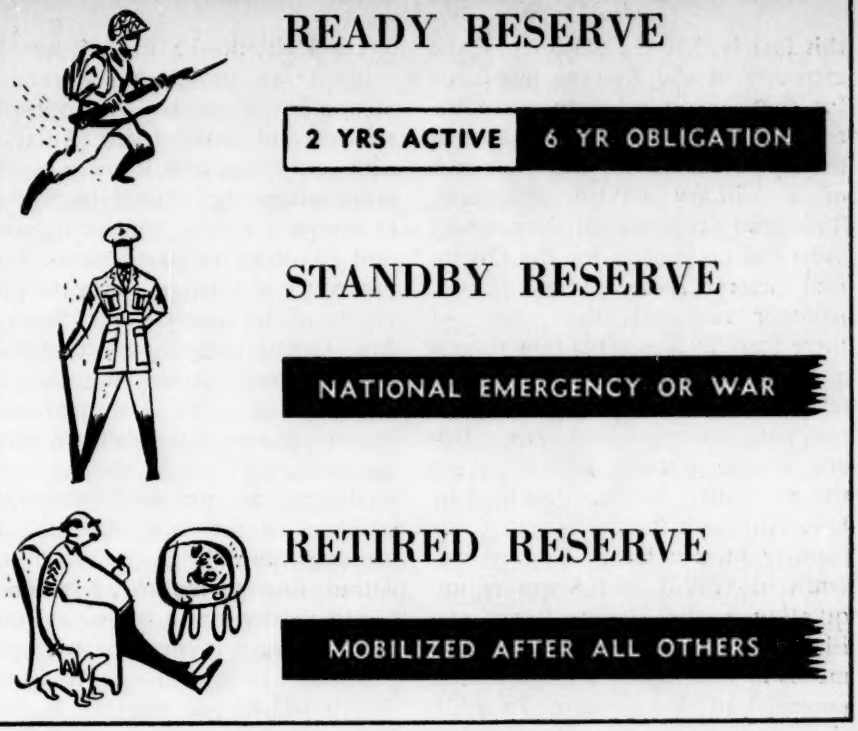
The first consideration is a determination of what categories of Reservists should be trained in the various programs available. Obviously the Organized Reserve is the heart of Reserve training since it consists of units participating in reg-

ularly scheduled weekly drills and annual field training. In addition the units are provided with excellent training facilities in the form of local training centers, are authorized equipment identical with that found in the FMF and receive the major portion of appropriated funds for support of the Reserve Program. In view of the above, it is apparent that the Organized program must provide the primary means for the accomplishment of the Reserve mission. Participation in this program, then, should be restricted to personnel who are of the most value to the Marine Corps from a mobilization standpoint and can, in actual fact, be mobilized when required. In order to determine the personnel who belong in this group it is necessary to study the liability of Reservists for mobilization as established by the Armed Forces Reserve Act. This legislation divides the Reserve into the following categories for the purpose of mobilization:

1. Ready Reserve—This category is the most liable for mobilization and it can be called to active duty during any future emergency declared by the President. Generally speaking, this group is composed of personnel who entered the service for the first time *after* June 1951, assumed an 8-year military service obligation under the provisions of the Universal Military Training and Service Act, completed 2 years active duty and now must remain in the Ready Reserve for a period of from 3 to 6 years depending upon their degree of participation in reserve training.

2. Standby Reserve — This category is liable for mobilization after the Ready Reserve has been called, but only during a national emergency or war declared by the Congress. Personnel presently entitled to classification in this category are, in general, those personnel who entered the service *before* June 1951. It is interesting to note at this point that the majority of the Marine Corps Reserve mobilized for the Korean emergency is entitled to Standby classification.

3. Retired Reserve — This category is composed of personnel who have qualified for retirement. Retired Reservists can be mobilized individually in case of national emergency or war declared by the Congress, but only after all available Ready and Standby Reservists have been mobilized.



Ready Reservists, then, comprise the category of personnel which provides the Marine Corps with its greatest mobilization potential. Those Ready Reservists now being released from active duty are not joining the Organized Reserves in large numbers despite the fact that such participation would reduce their Ready Reserve period from 6 to 3 years. This condition prevails because the majority of men entering the Marine Corps during the past few years did so out of necessity and not desire. The Marine Corps is somewhat fortunate in that for the past year enlistees, rather than inductees, have been the chief source of manpower. It is possible that they will feel more disposed toward participation in Reserve activities at such time as they complete their active duty.

In addition to the fact that Ready Reserves are, by law, the most vulnerable to mobilization, there are a number of other reasons why they constitute the most valuable group to the Marine Corps from a mobilization standpoint. This group is the youngest category of Reservists and consequently their continued input into the Organized Reserve would prevent it from becoming obsolescent. Their youth indicates more junior rank, a factor of extreme importance during any mobilization. This is particularly true in the case of officers. Also the younger the man, the more likely that he is free from family responsibilities and business connections which often dictate complete exemption from mobilization under all conditions.

Because of the lack of participation of Ready Reservists in the Reserve Training Program, compulsory reserve training is being carefully studied by the Department of Defense. Compulsory reserve training is far from being a satisfactory answer, particularly when applied to Reservists who have already performed 2 years active duty while thousands of other young men have never been and may never be drafted, thus completely escaping any military obligation whatsoever. The Organized Reserve cannot be maintained at the desired standard unless it remains voluntary in nature. All of the elements that make a good Marine are fostered by the desire and will to participate. For this reason it is believed that the Marine Corps should lend every effort toward the maintenance of a voluntary Organized Reserve just as it has in the past toward the maintenance of a voluntary Regular establishment.

The Organized Reserve is presently composed of a number of Standby Reservists. One reason for

this fact is that the majority of the members of the Reserve mobilized for the Korean emergency are entitled to this classification because of their previous service and their lack of a military service obligation. This group represented the primary source of manpower for the Organized Reserve reconstituted in 1951. Another reason is that many of these Standby Reservists now possess a considerable equity in their Reserve service and are attempting to complete 20 years satisfactory federal service in order to qualify for the retirement benefits provided by law. Although the premise that our country owes a lot to Reserve veterans of WWII and Korea is unquestioned, the Marine Corps can ill afford to employ its primary means of developing a mobilization potential in this manner. In addition to the fact that Standby Reservists are in a lower mobilization category because of their previous service, they also represent the very antithesis of Ready Reservists in that they are older, possess a higher average rank and often have business and family responsibilities which exempt them from mobilization.

The above discussion has pointed out the desirability of maintaining an Organized Reserve composed of Ready Reservists. This does not mean that the Standby category should be completely excluded from participation in this program. Officers and men in this group represent a wealth of experience and ability and should be utilized to the fullest extent practicable. A number of Standby Reservists, of appropriate age and rank, desire affiliation with the Organized Reserve to the point where they would be willing to accept a Ready Reserve designation in order to participate. This procedure is possible under the provisions of the Armed Forces Reserve Act. Others, undesirous of increasing their mobilization vulnerability, could associate with Organized units in order to receive training, or, when qualified, to assist in the training, recruiting or public information activities of the unit. As associate members, no drill pay would be involved but personnel so assigned would receive credit for satisfactory service toward eventual retirement.

In summation of the above discussion it is believed that the Marine Corps should adopt the following policies with regard to participation in the Organized Reserve Program:

1. Every effort should be made to influence Ready Reservists to affiliate with the Organized Reserve on a *voluntary* basis.

2. Standby Reservists, except those of particular value to the Marine Corps from a mobilization standpoint and those willing to accept Ready Reserve status, should be removed from the Organized Reserve.

3. Every opportunity should be afforded Standby Reservists not included above, to provide assistance to the Marine Corps Reserve Program in exchange for satisfactory service credit toward retirement.

Training must be flexible enough to fit the need

ORGANIZATION AND TRAINING OF ORGANIZED UNITS

Having discussed the question of who should participate in the Organized Reserve, consideration will now be given to the form this organization should take and how the personnel connected with it should be trained. As pointed out earlier the drill-pay units are organized and equipped in accordance with Tables of Organization and Equipment which are similar to those of FMF type units. Each unit contains a cross section of the functional fields and military occupational specialties found in the FMF type unit after which it is patterned. An analysis of the Reserve Tables of Organization shows that the majority of units have, in the case of enlisted men, from 40 to 65 MOSs and 6 to 9 functional fields represented. In the case of officers a similar situation exists in that there are a large number of MOSs for the number of officers involved.

The training year for an Organized unit consists of 48 two-hour drills conducted in home training centers plus 15 days annual field training. The 2-hour drill periods are, in general, utilized as follows:

1. Instruction and practical training in general military subjects.

2. Instruction and practical training in military occupational specialties.

3. Unit administration as necessary.

Annual field training emphasizes small arms marksmanship training and specialized training to include field and gunnery exercises, as appropriate. In order to foster esprit de corps, effort has always been made to maintain the integrity of each unit at summer training insofar as is practical.

It is believed that this organization and method of training outlined above leaves much to be desired from the standpoint of efficiency, practicality, expense and, last but not least, the ability of the units to accomplish their assigned mission.

In 1926, when the Marine Corps organized the first drill pay units consisting of infantry companies, the training of an integrated unit was a relatively simple matter. The

general expansion of the program between 1926 and 1940 which saw the creation of battalion size units and the addition of artillery as another specialty, did not materially increase the training problem. This could be attributed to the fact that the organization personnel-wise was relatively small, specialties were relatively few compared to present-day standards, and the Marine Corps had no personnel classification system. Consequently, training emphasis was logically placed on basic Marine training.

After WW II these conditions were reversed. The size of the Organized Reserve had increased immensely, many new specialties had been added and the Marine Corps had adopted a personnel classification system. As a result, integrated unit training became much more difficult. Basic Marine training did not require emphasis because the majority of Reservists were combat veterans. Training in military occupational specialties was extremely difficult because of the number of specialties involved, variety of equipment required, lack of adequate training space, including outdoor areas, personnel vacancies in the unit and the ever present problem of retraining. Retraining results from the geographical problem facing the Organized Reserve.

Marines, having developed a military occupational specialty while on active duty, do not necessarily live in a locality containing a Reserve unit featuring that particular specialty. Consequently, well trained artillerymen may be required to join an Engineer Battalion or combat infantrymen may be required to join a Signal Field Maintenance Company.

The reconstitution of the Organized Reserve, subsequent to the Korean mobilization, on the integrated unit principle further complicated the training problem. The increase in number of units from 138 to 255 with the addition of many more highly specialized units, together with the numerous personnel vacancies within the units, has rendered integrated unit training at home training centers virtually impossible. Also installations conducting annual field training, even with the Organized Reserve at less than 50 per cent authorized strength, have experienced major problems in handling reserve training on an integrated unit basis because of the large number of specialties involved and the physical limitations of the training facilities.

Looking back over the history and also examining the present mission of the Marine Corps Reserve, there appears to be no requirement for its organization on an integrated unit basis. It is true that Reserve units have been traditionally organized in that manner, but it is also equally true that they have never been utilized as integrated units following mobilization. In addition, there appears to be no likelihood that they will ever be used that way in the future. It has been suggested many times that one over-riding consideration makes the integrated unit concept worthwhile regardless of other unfavorable conditions which might dictate otherwise. This consideration is esprit de corps. It is true that this is an extremely important matter but it is submitted that esprit de corps is developed and fostered by the association of Marines with Marines and is not dependent on the type of organization.

The present day FMF, organized on a divisional level with many specialized supporting troops, emphasizes the requirement for trained specialists in case of mobilization. Regardless of this fact, however, there are definite limitations on how much of this training can be accomplished by Reserve units. It must be remembered that the annual training period is limited to 96 hours a year in home training centers plus 15 days field training, at least 2 of which must be devoted to travel. The men involved are basically civilians beset by all of the problems of competing in a civilian world in order to make a living. Viewed from a practical standpoint, the time available to these men for devotion to reserve training and the mastering of the complexities of modern military equipment is indeed short. It may be argued that this is only true when considered on a yearly basis and that progressive training over a period of years would overcome this difficulty. Progressive training beyond a certain point is not practical in the Reserve because of the instability of the personnel situation within the Organized units. This situation is created by the constant movement of personnel geographically and the requirement that young, untrained men be constantly fed into the units to prevent them from becoming obsolescent, thus rendering them incapable of providing a mobilization potential because of age.

For the reasons cited above and approaching the problem from a realistic point of view, it is believed necessary and also desirable to keep reserve training basic and repetitious in nature. This could be accomplished by the adoption of a school-type training organization in place of the integrated unit type. The school-type concept envisions a very flexible organization and complete abolishment of type units by name. All Reserve units would be designated by number and would be known as Marine Corps Reserve Battalions or Companies depending upon their size. Each unit would consist of a variable number of companies or platoons of variable size and organized by functional field. As an example, and in order to present the concept in broad outline, a Reserve Battalion might consist of an infantry company of 200 men, an artillery battery of 75 men, a communications company of 50 men, a motor transport company of 25 men, and an engineer company of 25 men. Training would be conducted in the following manner. All members of the battalion would be grouped by rank for the accomplishment of training in general military subjects. Training in specialized subjects would be conducted by the units organized by functional field. By means of a carefully worked out training syllabus, and taking into account the growth of the unit over a period of time, training would be progressive in nature but sufficiently flexible to permit repetition from the bottom level at such intervals as personnel changes made it necessary or desirable.

Training emphasis would be directed toward matters basic to the functional field involved and would be progressive only to a point within the unit's capacity. For instance, a 200-man infantry company would

experience little difficulty in conducting progressive training and at the same time repeating training for new personnel. A unit dealing with highly technical subjects such as communications and electronics would be less progressive and would deal primarily with the operation, maintenance and general knowledge of the equipment.

It is not implied that complete flexibility would exist and that units would tailor their organization as desired. Nor is it believed that, once organized, frequent or large scale changes in organization would be required. Reserve units would be restricted to training in from 3 to 5 functional fields. The infantry functional field would be contained in every unit while other fields would be distributed among units based upon the mobilization requirements of the Marine Corps.

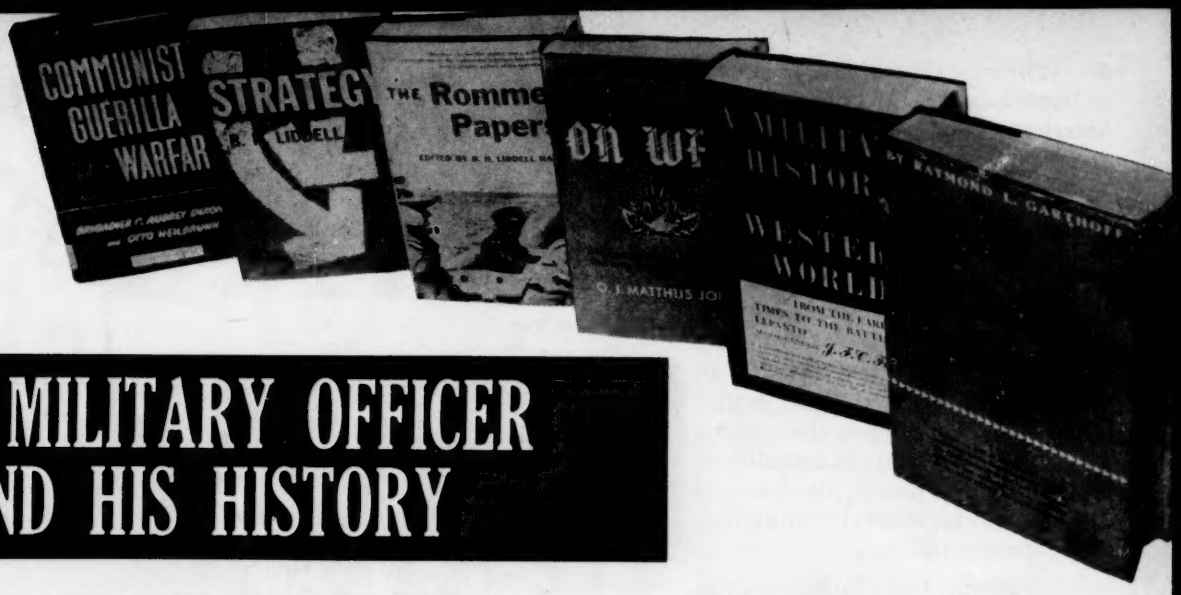
It might be argued that such a system is too flexible and as a result the actual composition of the organized units would never be in balance or approach the true mobilization requirement in terms of specific ranks and military occupational specialties required. It is believed that a mobilization requirement, as applied to the Reserve, computed in terms of rank and military occupational specialty is excellent in theory but something less than that in actual practice. Such a procedure approaches very closely the problem of trying to fit square pegs in round holes or that of making supply equal to demand. The supply of Reservists, by rank and military occupational specialty never equals the computed mobilization requirement. Furthermore, there is little likelihood that it could be accomplished without considerable retraining, reclassification and the resultant submersion of prior established and valuable military skills.

It is considered that a realistic approach to the problem would be a computation of the mobilization requirement on a rank and functional field basis. A semi-annual audit of Reserve units by rank and functional field using machine accounting procedures would provide sufficient information to compare the total Organized Reserve strength with the mobilization requirement. This comparison would then be used as the basis for semi-annual directives to the units indicating their adjusted strength by rank and functional field for the subsequent 6-month period. This procedure would permit maximum flexibility at the unit level but would impose accurate accounting and positive control at the headquarters level, an extremely desirable situation in the event of mobilization.

The school-type concept would also have a bearing on the amount of equipment in the hands of Reserve units. Just as a class of school children are issued sufficient textbooks and related matter to accomplish their work, the Reserve unit would be issued the necessary equipment and tools to conduct effective training. Greater emphasis would be placed on training aids and items of surveyed equipment. These would be exceptionally valuable to units training in technical subjects.

The school-type concept would result in a reduction of equipment required by Reserve units. This reduction in equipment would reduce the funds required to support the Reserve Program and would also simplify the critical space problem at home training centers. Many of them are already overcrowded, lack sufficient outside space and do not have room for equipment presently authorized by Tables of Equipment. During annual field training Reserve units would proceed to camp with a minimum of equipment, effecting a saving in transportation costs. Upon arrival at the training sites the Reserve units would be integrated by functional field with units of the Fleet Marine Force and would use the equipment belonging to those units.

In summary and conclusion it is pointed out that the Marine Corps always has had a very effective Reserve. This can be attested by the splendid performance of duty on all occasions when it has been required to serve. This article has attempted to point out several areas where, it is believed, shortcomings in the program have developed, primarily because of new legislation which affects the Reservists' rights, privileges and responsibilities; the increased size of the Reserve; and the requirements for well-trained specialists. These shortcomings can be overcome readily and effectively by the direction of effort toward creating an Organized Reserve comprised of *volunteer* Ready Reservists, by maximum utilization of the experience and skill of Standby Reservists in the program, and finally by the replacement of the FMF-type organization with a school-type organization. These changes, if adopted, would provide for a more effective and efficient training program, would produce better trained Reservists with a higher mobilization potential, and at the same time would result in a reduction of funds and administrative overhead to support the program. USMC



THE MILITARY OFFICER AND HIS HISTORY

By RAdm John D. Hayes, Ret.

Reprinted from MILITARY AFFAIRS

WHY IS THE US MILITARY profession today unable to produce writers? Why are there no successors to Upton, Dodge and Spaulding, or to Luce, Mahan, Fiske and Knox? The interpretative military writing in English now comes from abroad, in the works of Fuller and Liddell Hart and of others such as Admiral Richmond, Captain Grenfell and Air Marshall Slessor. The British military profession publishes *Brassey's Annual — The Armed Forces Year Book* and the quarterly *Journal* of the Royal United Services Institution. Nothing comparable is produced in the United States. The American military profession, now at its peak and holding the destiny of the world in its hands is unable to know itself except through foreign pens.

Why is this? It cannot be because of lack of stress on military education. American military officers spend more time in schools than do their counterparts anywhere in the world. But little creative thought from these schools has reached book form. Alfred Thayer Mahan wrote his great work on sea power while the Naval War College was going through its first difficult years. Warfare has now taken new forms but the necessary interpretation has not come from the joint colleges established since World War II. Security cannot be the reason entirely.

The cause for this condition may lie in a warning given over half a century ago by Captain Henry C. Taylor. Taylor was Mahan's successor at the Naval War College and one of the group of forward-looking officers, now almost forgotten, who prepared the Navy for its great test of World War II. His report on the College in 1897 contained the following paragraph:

"It is noticed that the interest excited by the [war game] exercises . . . leads some officers to neglect the reading of history. This is a tendency that should be carefully guarded against for the basis of all true knowledge of the art of war is to be found in the intelligent study of history."

Despite several wars and a rise to world leadership, this neglect is still evident; in fact it is now more than neglect. The impact of physical science on warfare has caused officers to disregard or avoid history for fear that it may misguide. Modern man's stress on the natural sciences has caused faith to be put in things rather than in people — and history can only help in understanding people. In modern warfare, it is weapons that seem to count, not warriors — and military history cannot improve weapons, it can only improve the warrior's trade and his use of weapons.

War is a human activity and its study is a social science. The only true laboratory for a social science, for analyzing the affairs of men, is history. "The Past is half of Time, the tested half," said Herman Melville.

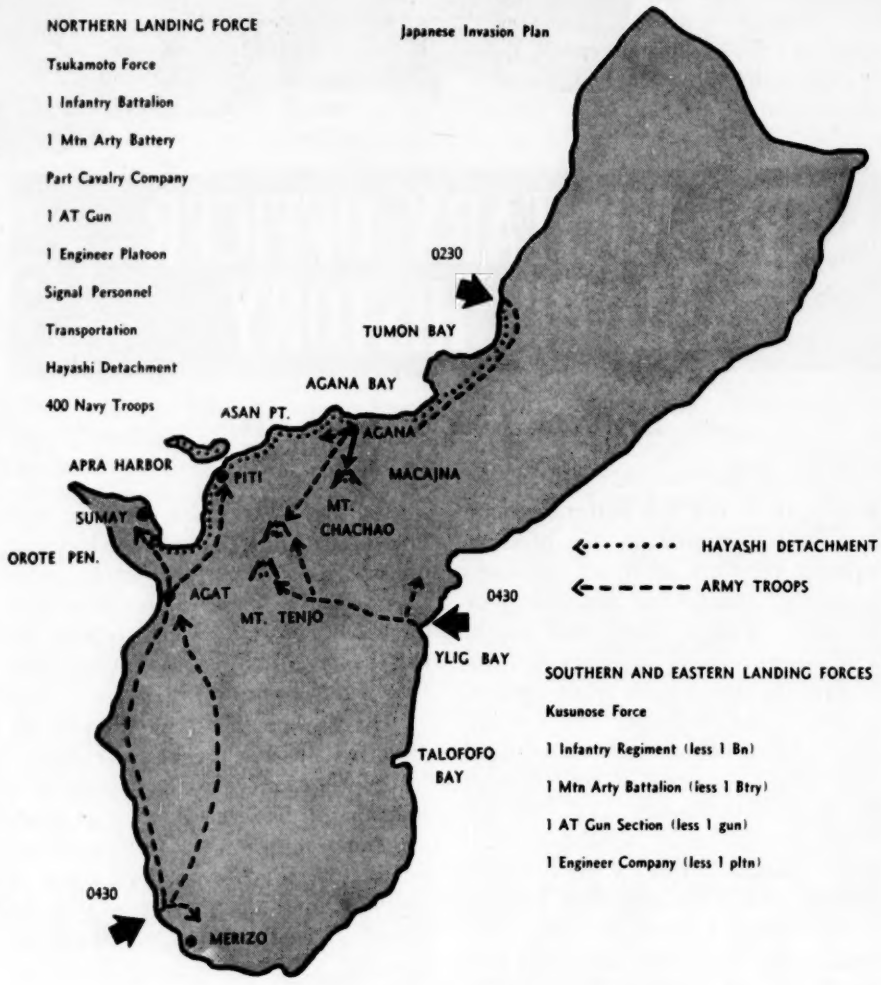
Every profession needs a proper balance of thinkers and doers, of researchers and practitioners, of philosophers and men of action. Today the United States is in need of military philosophers. Admiral Stephen B. Luce, probably the most learned man that the US military profession has produced, was fond of the expression, "History is philosophy teaching by examples." Today Americans are pleading for a philosophy of war consistent with their philosophy of life and of government. The military profession will never be able to define such a philosophy unless officers take time to read history and some devote themselves to its **study.**

Reprinted from ORDNANCE

WHILE MILITARY MEN are shying away from their own heritage, the academic profession is showing increased interest in military history. This interest is not among the older generation of historians who continue to consider war as an aberration and a nuisance in the historical process. It is centered in a younger group of professors and students on whom the reality of war has been impressed by events of the turbulent 20th Century.

If the trend continues it might well be that this will be the group rather than the military profession who, in the future, will be asked for advice on military-political problems. Here historical analogy serves us again, for in very recent history there is a similar case of economists rather than businessmen or industrialists being called upon for advice on decisions affecting the economic and industrial welfare of the country. US MC

THE JAPANESE



By Thomas Wilds

When Guam fell to Japan on 10 December 1941 it became the first American soil formally surrendered to an enemy in WWII. This was not surprising, for the island had a small garrison, no fixed defenses and was surrounded by strong Japanese bases in the Mandated Islands. In spite of Guam's weakness, the Japanese feared to leave an enemy base in their rear and decided to invade the island at the very beginning of the war. This is the story of the seizure of Guam, as revealed in records of the Japanese invaders and in post-war accounts by American and Japanese officers.

Throughout 1941 Japanese ships and planes from Saipan kept close watch on Guam. This vigilance increased in the latter part of the year, for the Japanese feared that America might reinforce the garrison at the last minute. Saipan's small 18th Naval Air Unit began regular reconnaissance flights in the middle of October, flying no closer than 30 miles off shore, and watched for shipping arrivals and departures. Ships from Saipan also joined in the hunt for intelligence, and the Saipan garrison even established a little lookout station on Rota, only 49 miles from Guam which was visible on a clear day. The Guam garrison was well aware of these activities and on one occasion an American patrol boat dashed out to intercept a Japanese ship, but the vessel made for Rota at high speed and got away.

The report submitted by Japanese fliers at the end of November shows what Guam looked like to its invaders, and is worth quotation at length:

"1. Anchored in Apra Harbor are 1 tanker, 1 ship that looks like a gunboat and 2 small vessels.

"2. There does not appear to be any airfield and no planes (land or seaplanes) were sighted.

"3. The locations and numbers of gun positions are unknown, and the number of troops is also not clear; but, judging from the accelerated road construction, etc., it appears that preparations of lookout posts and gun positions may be considerable. . . .

"4. The barracks, cable station and fuel tanks on Orote Peninsula, as well as the Naval Repair Station, wireless station and other prominent targets were spotted.

"5. No enemy surface or air movements were noted in the area."

This report was comprehensive and correct in most particulars. The ships in Apra Harbor were tanker *R. L. Barnes,* minesweeper *Penguin,* and 2 patrol boats. The only air installation was a seaplane stopover used by Pan American Airways. The "prominent targets" noted included almost everything of military significance. But the references to gun positions were unjustified, for there was no fixed or field artillery on the island, except two 3-inch antiaircraft guns on *Penguin.* Indeed, Guam was even weaker than the Japanese report indicated.

Invasion planners made a fairly accurate estimate of 300 men as the combat strength of Americans on Guam. Actually, there were 153 Marines, 271 Navy personnel and 134 civilian construction workers and Pan-Air employees, under Capt George J. McMillin, USN who was both island commandant and civil governor. This tiny garrison was not, however, intended to be an adequate defense force, for the Marines and Navy men were only enough to provide a civil government, police and a medical staff for almost 24,000 natives. Moreover, the garrison had only small arms and 4 .30 caliber machine guns.

But the Japanese made a substantial error in estimating the strength of native troops at 1,500. Actually there were only 80 Guam natives in the Insular Force Guard, and these were recruits with less than a year's training. This over-estimate, added to their failure to realize that the

SEIZURE OF GUAM

The Japanese plan dictated the most difficult routes. But the Hayashi Detachment got lost, and found an easier way

garrison had no fixed defenses, artillery or even mortars, induced the Japanese to earmark 6,000 men in ground troops alone for the invasion of Guam.

A 5,500-man regimental combat team, called the South Seas Detachment and commanded by MajGen Tomitaro Horii, formed the bulk of the invasion force. Specially organized to seize Guam and later the Bismarcks, the RCT included a headquarters, infantry regiment, mountain artillery battalion, engineer company, part of a cavalry company (mounted), antiaircraft company, antitank gun section and various service troops. To this substantial force the Imperial Navy added 400 sailors, trained as marines, from the Saipan garrison. This detachment was led by Cdr Hiroshi Hayashi, and known as the Hayashi Detachment. Hayashi's unit was to garrison the island after its capture, though it was also to play an important role in the invasion itself.

The Japanese also committed considerable surface strength to the Guam invasion, including heavy cruiser *Aoba*, destroyers *Yuzuki, Kikuzuki, Uzuki* and *Oboro*, 12 transports, 4 gunboats, 5 subchasers, a minesweeper squadron and other auxiliaries. All vessels, except 9 army transports, were drawn from the Japanese Fourth Fleet, which commanded the Mandated bases that surrounded Guam. Fourth Fleet CinC, Adm Nariyoshi Inoue was responsible for the Guam operation, though General Horii would take over once the troops landed.

On 8 November 1941 Gen Horii received orders from Imperial GHQ to ready his South Seas Detachment for the invasion of Guam. A week later Adm Inoue flew from the Mandates to Iwakuni Air Base in Japan, where he and Gen Horii conferred for 2 days. Here they ironed out the details of Army-Navy co-operation and set a schedule for the advance on Guam, which they timed so that the invasion force would appear off Guam almost at the very moment of the Pearl Harbor attack. The army transports with the South Seas Detachment aboard would leave Japan and rendezvous with Fourth Fleet ships in the Bonins. Then the combined force was to head for Rota in deepest secrecy, to a second rendezvous with auxiliaries from Saipan bearing the Hayashi Detachment. Only the appearance of American planes over Guam or the compromise of secrecy would change this plan.

On 20 November Horii issued a detailed operations order, including the landing plan, and directed his RCT to embark for movement south. His transports reached Hahajima in the Bonins by the end of the month, where they rendezvoused with *Aoba* and other ships on 2 December. On the same day Horii received an order from Imperial GHQ setting D-Day on Guam at 10 December. The combined force departed Hahajima on the 4th, moved slowly and cautiously southward and reached Rota before dawn on the 8th. Here they met the auxiliaries from Saipan, carrying the Hayashi Detachment and towing landing barges. The troops settled down in their transports to wait for D-Day, as escort vessels fanned out on antisubmarine patrols.

While the small task force made its way toward Guam, a much greater force crept up on Hawaii. At 0750, 7 December in Honolulu (0420, 8 December on Guam) the first wave of Japanese planes struck Pearl Harbor. Forty minutes later the 18th Naval Air Unit on Saipan was ordered to attack Guam.

The Naval Air Unit, which had only about a dozen planes, was to carry out 3 important missions during the 8th and 9th. First, sink the "Guam Navy," second, bomb installations ashore and third, make a final report on the defenses of the island.

The first flight from Saipan sighted Guam at 0800 on the 8th. The pilots searched carefully for signs of aircraft and finding none, moved in on the tanker, *Barnes*. The ship could not even move under her own power and was kept moored to her buoy as a floating oil tank. The planes dropped 10 bombs over the sitting duck and near misses started several leaks in her hull. Next the planes turned on *Penguin* which had steamed to open sea at the harbor entrance. The crew manned their guns in the teeth of strafing that killed one and injured several, but Japanese bombs soon put the ship in a sinking condition. The sailors entered life rafts, and *Penguin* went down in deep water off Orote Point, taking Guam's only artillery with her. The planes attacked the remaining ships that afternoon and on the 9th, and by evening of the second day the "Guam Navy" was no more. *Penguin* was sunk, *Barnes* was a riddled hulk, one patrol boat was destroyed by fire and the other severely damaged.

The pilots concentrated their attacks on Guam itself in the area from Agana to Orote Peninsula, where all important military and civil installations were located. Heavily populated Agana was the island capital and headquarters for the garrison. Orote Peninsula held the Marine Barracks and the cable station, and the shores of Apra Harbor contained the remaining installations of military significance, including the Navy Yard at Piti.

First shore target the morning of the 8th was the Marine Reservation and several Marines were hit. During the day the reservation, cable station, Navy Yard and radio station

were bombed and strafed. A cache of fuel drums near the cable station was hit and burst into flames. Bombs fell on civilian houses and the Pan-Air Hotel. On the second day the pilots bombed the same targets and strafed lookout stations and native villages at scattered points. The defenders answers back as best they could with rifle and machine gun fire, inducing the pilots to maintain respectful altitudes. They even hit the fuel tank of one plane, but the pilot was able to make it back to Saipan.

At 2109 9 December the 18th Naval Air Unit made its final report. No gun positions throughout the length and breadth of the island. No mines in any of the harbors or bays. The only defense installation was a supposed machine gun position in the northern suburbs of Agana.

With the island softened up by 2 days of bombing and strafing, Horii's landing plan was ready for execution. His plan called for seizure of the Agana-Orote area by converging attacks from the north and south. He divided his forces into 3 parts, and ordered each to land on widely separated beaches and converge on the Agana-Orote area. One part was to land north of Agana, another far south of Orote and the third on the east coast. The landing plan, with a partial breakdown of the forces assigned to each beach, is shown on the map (page 20).

The northern landing force was composed of a reinforced battalion, called the Tsukamoto Force, and the Hayashi Detachment. Both were to land through an opening in the coral reef in Tumon Bay at 0230. The Tsukamoto Force was to move rapidly down the coast, seize Agana, and then occupy the high ground inland as far south as Mount Chachao. The Hayashi Detachment was to remain under command of the Tsukamoto Force until the capture of Agana. Then Hayashi was to continue along the coast, seize installations on the shore of Apra Harbor, meet the southern landing force, and support its invasion of Orote Peninsula. Hayashi could call on the Tsukamoto Force for help if strong American resistance developed.

Hayashi Detachment — victory in 1941, annihilation in 1944

The remainder of the South Seas Detachment, called the Kusunose Force and amounting to two-thirds of an RCT, was committed to the southern and eastern landings. The exact division of troops for each beach does not appear in Japanese accounts, but they were divided into a Main Body for the southern landing, and a Detachment for the eastern landing. The Main Body was to land on an open beach north of Merizo, advance north along the coast to meet Hayashi between the neck of Orote Peninsula and Cabras Island, and then take the peninsula itself. The Detachment was to land at Ylig Bay and occupy high ground south of the area taken by the Tsukamoto Force. Both landings were scheduled for 0430.

Support vessels were to shell suspected shore batteries (in spite of the negative reports of the planes) and points of expected resistance, especially along the west coast from Merizo to Orote, which was the proposed line of advance of the Kusunose Force Main Body. They would not attempt to soften up the landing beaches, for all landings were scheduled before dawn (0530) and night bombardments were expressly forbidden. The planes from Saipan were assigned similar targets and were to lend close ground support in case resistance developed.

Horii himself was to land with the southern landing force and accompany it to Agat where he would establish his headquarters. He expected the strongest American resistance to form on the narrow front afforded by Orote Peninsula, and planned his elaborate maneuvers to end with a strong drive to crush the defenders there. With his headquarters at nearby Agat, he would be in position to command the final push in person. His assumption that the main resistance would be on Orote was well founded, for the Marines under LtCol William K. MacNulty, less 28 men on patrols at scattered points, took up positions at the butts of their rifle range near Sumay. The Insular Force Guard, however, formed in Agana Plaza, and Capt McMillin kept his headquarters at Government House in Agana.

By 0100, 10 December the transports and escorts moved to assigned positions off the beaches and began to ready landing barges and ships' boats. Soon the northern landings began. The Tsukamoto Force found the hole in the fringing reef of Tumon Bay and hit the beach at 0225, 5 minutes ahead of schedule. But the Hayashi Detachment, which started from a different ship, somehow missed the reef opening in the dark. The navy men then followed the reef south looking for a passage, but when the reef ended they were confronted by the steep cliffs of the promontory that divided Tumon and Agana Bays. Hayashi's men finally rounded this promontory and entered Agana Bay itself, where they discovered a suitable channel at Dungcas Beach. The sailors used flares to guide themselves ashore and thus destroyed any chance of surprise. About 0400, Capt McMillin, only 2 miles away in Agana, received word that flares had been spotted at Dungcas Beach.

The Tsukamoto Force had not yet reached Dungcas Beach, perhaps because it waited for Hayashi to appear in Tumon Bay. According to plan Hayashi should have waited for the army unit to catch up, but instead he decided to attack Agana all by himself. He led his men over a dirt road along the shore and soon found a good surfaced road leading straight to the capital. He met his first resistance in the suburbs, but forced the defenders (their identity is unknown) to retreat and pushed on toward the plaza and the waiting Insular Force Guard.

When Hayashi's men reached the plaza at 0515, a burst of fire from the opposite side halted their advance. A brisk firefight began, but it was soon apparent to the defenders that they were no match for 400 well-equipped Japanese. By 0545 Capt McMillin had received word of the army landings and realized that further fighting could only lead to useless slaughter. He notified the Marines on Orote that they should offer no resistance. At the same time 3 blasts on the horn of an automobile parked before Government House were taken by both sides at the plaza as a signal to cease fire.

A Japanese then shouted across the plaza, "Send over your Captain!" Commander Donald T. Giles and BMC Robert B. Lane stepped out into the open, and were marched behind Japanese lines to meet Hayashi. About 0645 they returned with the Japanese commander to the plaza, where many Americans and the native soldiers were herded together under cover of Japanese machine guns. Commander Giles identified Capt McMillin and both entered Government House with Hayashi to discuss a formal surrender. But they had no interpreter, for the Japanese had not planned that Hayashi would be in this position. So Hayashi selected his own interpreter from the resident Japanese nationals who had been kept in the Agana jail since the 8th. After a briei discussion, Capt McMillin wrote and signed articles of surrender. The Japanese flag rose over Agana.

After accepting the surrender, Hayashi continued to move over a good surfaced road along the coast. He took the Navy Yard at Piti, but soon after ran into men from the Insular Patrol. The Marines fired on the advancing Japanese, but were soon overwhelmed and taken prisoner. Still moving at a fast pace, the Hayashi Detachment proceeded to the neck of Orote Peninsula without contacting the southern landing force whose attack on the peninsula he was to support. Again Hayashi decided not to wait and advanced on Col MacNulty's Marines, who had been ordered to offer no resistance. He accepted their surrender at 1025 and it was all over.

Six hours after landing at Dungcas Beach, Hayashi had more than accomplished his mission, but where was the South Seas Detachment? The Tsukamoto Force was far behind Hayashi, and the other forces were bogged down in the boondocks miles away. The eastern landing force missed Ylig Bay, and instead landed at Talofofo Bay, which was farther from their objectives. The force was then confronted with an uphill climb cross country or along tortuous trails that obstinately refused to go in the right direction. The southern landing force split into 2 parts. One took an inland trail over rugged, jungled and mountanious terrain. The other followed a combination of trails and roads near the cost that crossed at least 20 stream beds from the landing beach to Agat. The Japanese certainly picked some difficult routes to their main objectives.

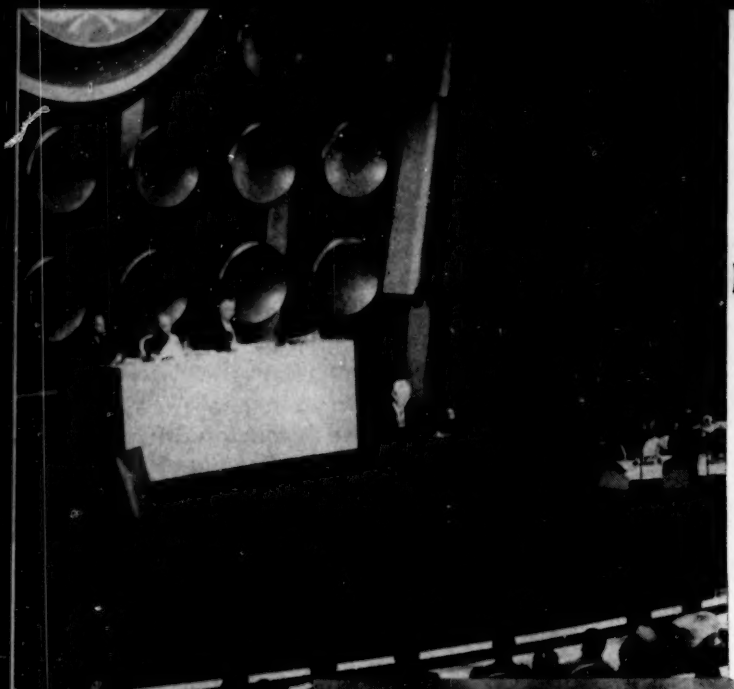
When American forces re-took the island in 1944, the 3d Mar Div and 1st ProvMarBrig smashed over the reefs at Asan and Agat, cut off Orote Peninsula, and pushed the Japanese back into the jungled interior. Why did Horii not suggest such a plan? The answer lies partially in the coral fringing reefs that girdle Guam. Horii selected landing points where channels made access easy. It must be remembered that the Japanese had only simple landing barges and ships' boats, nothing at all resembling the amphibious tracked vehicles that later made it possible for American assault forces to get over coral obstacles.

However, this is not the full explanation, for there were reef openings closer to the Agana-Orote area than those Horii adopted. Remember that he greatly overestimated the strength of the Insular Force Guard and remained convinced that the defenders possessed shore batteries in spite of the failure of air reconnaisance to locate any with certainty. He could not rely on his small surface and air strength to soften up the beaches effectively and dreaded the thought of assault landings in the face of American fire. From Horii's point of view, assault landings were perilous and unnecessary and he decided to put his troops ashore at remote points where he believed they would run into little or no opposition. To guarantee that his landing operations would come off undisturbed, he conducted them at night.

It is hard enough to get troops ashore with reasonable order in daylight and darkness increases the difficulty. As might be expected, some of the landing troops did miss their beaches, with results that changed the entire character of the operation. Hayashi stumbled onto a direct approach that ended the operation quickly, while the army units contributed little more to the capture of Guam than to convince the Americans of its inevitability.

Once the overwhelming Japanese forces were ashore, the tiny American garrison had no choice but to surrender. In 2 days of bombings and in the fighting on the 10th, the Navy and Marine Corps lost 13 dead and 37 wounded, the Insular Force Guard 4 dead and 5 wounded, and Japanese sources indicated 40 to 50 native civilians had been killed and many wounded although McMillin officially reported only 7 civilian casualties. Further resistance would risk not only the lives of the garrison, but the lives of many more innocent civilians. The American survivors, who spent the next three and a half years in Japanese prison camps, might take grim consolation in the thought that their very presence on Guam tied down 6,000 first-class Japanese combat troops, a cruiser and many supporting ships.

The Hayashi Detachment became the pride of the Imperial Navy. But their pride lasted no longer than Japan's hold on Guam. When the Marines landed in 1944, the Hayashi Detachment, still on the island, was annihilated. USMC



No

By George K. Tanham, Ph.D.

A STUDY OF HISTORY INDICATES that where there are intense rivalries between states, and no matter what the form of government or the nature of their societies, there will be war. The ancient rivalry of Persia and Greece, the Punic wars between Rome and Carthage, the long period of conflict between France and England and the Anglo-French wars with Germany are some of the outstanding illustrations of this historic fact.

In all these cases, the struggle was bitter and protracted, thus indicating no easy ways of vanquishing a determined opponent. Whether certain encouraging examples of international co-operation and the seeming necessity for world peace will overcome the historical factors which have almost always brought rivalries to violent conclusion, is a point heatedly debated.

It is true that there is an International Postal Union, a World Health Organization and an International Labor Organization, to name only a few of the specialized international organizations attempting to solve specific world problems and thereby promote understanding and unity. The League of Nations attempted, and the United Nations is trying, to solve the more difficult political, economic and social problems of the nations and the peoples of the world. No nation, particularly a great one, has or seems to be willing in the near future, to surrender one iota of its sovereignty, or to accept the will of others in matters of importance to itself. In the present United Nations, there is a majority bloc composed of governments more or less opposed to Russia. But when an issue affects them individually and significantly, they are not so amenable to majority action; i.e. France in the case of Tunisia and Morocco. A coldly realistic, not necessarily cynical, appraisal of the present situation does not seem to offer great hopes for

easy way

Super weapons and grandiose schemes never have been the answer to swift painless victory

world peace.

Peace, however, is rarely if ever the aim of a nation's foreign policy, except in the sense of some far off millenium described in terms of its own way of life. In spite of politicians' claims that their goal is peace, there are other aims of policy which have greater priority and to which peace would be sacrificed.

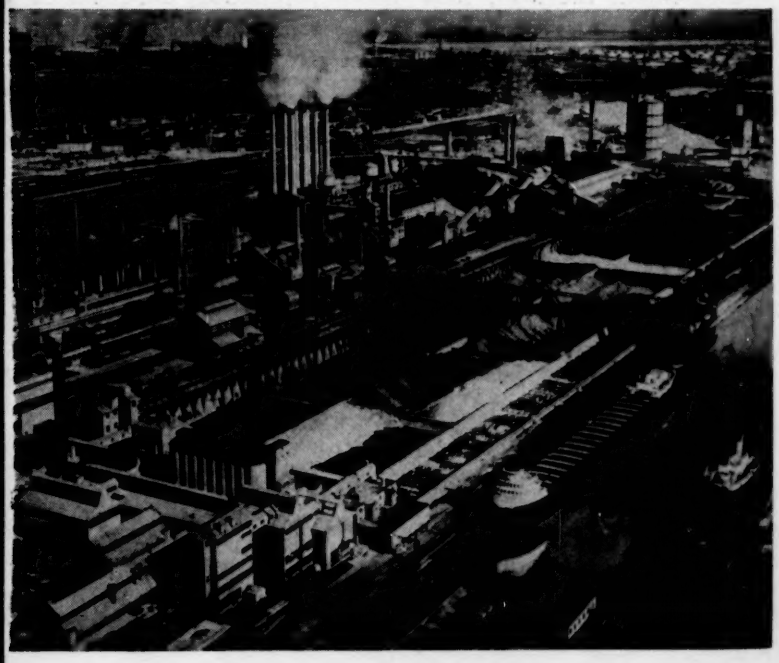
Today most Americans, and certainly government policy, would forcibly defend America from invasion and therefore give up peace. They would also probably fight to preserve the democratic way of life in Western Europe. It would seem to be true that all countries have certain vital objectives, usually referred to in terms of self-defense, which they place above the goal of peace. Peace in our imperfect world is very similar to war in that it is merely the means to an end. For instance, the Soviet Union may decide that their objectives may best be carried out in peaceful times, but they may also reverse this decision if it seems that war will lead to the accomplishment of their most cherished aims. If all powers feel that peace is to their best interests, there will be no war, but when one or more do not, there will be war. Today there are conflicting aims of two great powers. Peace at the present appears to serve both well, but will it always? It seems unlikely.

Assuming then that there is a good possibility of a war between Russia and the US in spite of efforts for a settlement of serious differences, it behooves Americans to study carefully the best means of winning such a war. A very rough and brief comparison of the resources of war of the two nations will reveal the difficulties faced by an American government.

In the crucial factor of population, the Russians have the advantage of approximately 4 to 3; this advantage being reduced slightly by the fact that their population is spread out to a greater extent than in America and with far poorer communications. In resources, the US is rich and the exact nature of Russia's is not known, although held to be considerable. In industrial output the US holds a considerable advantage. In technical ability and skilled labor, the US holds some advantage, although time would seem to be whittling this advantage down. In summary, it might be safe to say that the US is ahead in the development of its potential while Russia has probably the greater potential;

Sovfoto

Wide World



but in the time element she is somewhat behind, although not as much as is popularly believed. One disadvantage of a highly developed potential in war, is that the society is accustomed to a higher standard of living and, even in war, a greater civilian demand is made on the resources of the nation. This extremely rough analysis would seem to indicate that the US is not in an entirely favorable position to wage war against the Soviet Union, nation against nation.

The US has attempted, through a system of alliances in Europe and a less advanced regional agreement in the Pacific, to tilt this generally precarious balance of power in her own favor. In Europe, NATO has brought together most of the nations not under Soviet control. These nations together could present sizable armed forces and considerable industrial power which would be adequate to tip the balance in favor of Western Democracy. Economic difficulties, social problems and political frictions within the countries greatly limit their military strength. Franco-German rivalry has held up German re-entry into European coalition, and the conflicting attitudes towards the colonies of several of the European nations has caused friction within the Western camp.

Dutch fear that all the Netherlands will not be defended by NATO, the English refusal to join the Schuman Plan and France's desire to retain the Saar, show how strong national feeling is and how difficult international co-operation, even among friends, can be. Nevertheless, NATO is providing a rallying point for the Western European nations, and may eventually lead to some real unity in co-operation with the European Economic Union. Certainly enough military strength has not developed so as to stop a Russian drive through Western Europe; but progress is being made, whether it is at a greater rate than in the Eastern bloc, can only be guessed.

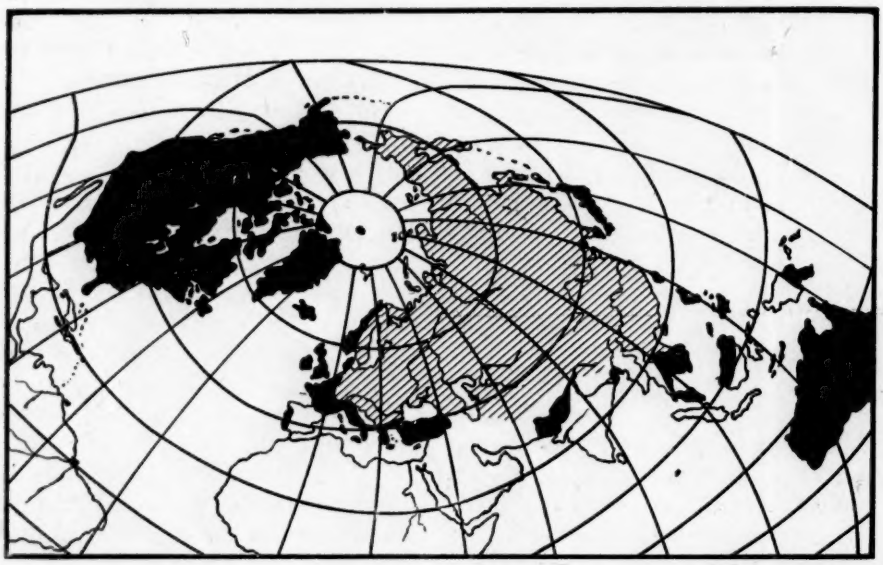
In the Pacific an island defense system, centering on Japan, is being established in co-operation with Australia and New Zealand. French efforts in Indochina, United Nations' action in Korea and British efforts in Malaya are attempts to hold part of the mainland. There is still need for greater co-ordination in the Asian theater.

The USSR has pursued a similar policy of gaining allies to support and strengthen its position, but by means and methods not generally approved in the West. She has expanded her borders westward, annexing parts of Rumania, Poland and the Baltic nations, and has gone west in alliance with Czechoslovakia and most of the Balkan nations. Through the occupation of parts of Germany and Austria she has advanced still further west. Her allies, as is true of the allies of the US, have furnished her strength where she is already strong. They provide population, but (with the exception of Czechoslovakia and parts of Germany) do not provide skilled labor and great industrial power. In the East, the Communists have taken over China and, although the exact relationship between the two powers is not clear, there is apparent co-operation. Russia has thus rounded out an empire, directed from Moscow, which runs from the China Seas to the Elbe River in Europe. It is a compact mass of much of the great undeveloped regions in the world — but with a frightening potential in power.

Two contrasts in these two systems of alliance should be briefly mentioned. In the first place, in Western Europe there is no common foreign policy towards the Soviet. Each nation carries on its own propaganda and takes its own stand on controversial issues. Defense measures are co-ordinated, but the battle of the cold war is left to each nation with only a degree of consultation among the Big Three. In the second place, there is little, if any, interchange of information, much less co-ordination between the European system and the Pacific system. This dual weakness is sharply in contrast to the Soviet bloc which not only has a common policy in Europe, but has world wide co-ordination of policy and action determined by the Kremlin and directed from there. Thus, the co-operative method adopted by the democratic powers which permits each member to retain all its sovereignty is, at present, a definite limitation on their efficient conduct of the cold war and is a handicap in dealing with the highly centralized Russian system. It is not suggested that all differences of allies can be erased, nor do the democracies desire a dictatorial system, but they must have a more unified effort in Europe and a co-ordinated world-wide policy which can deal with the highly centralized Soviet empire.

In a world so clearly divided into two major camps, and where power is still the lever of all diplomatic maneuvers, it is neither cynical nor warmongering to examine and appraise military strength, and to prepare for a limited war (such as Korea) and a possible world war. The private citizen can no longer grab his rifle and successfully de-

Pacts and alliances align the world in opposition



H Bomb — we cannot rely too heavily on one weapon

fend his country today and return to work tomorrow. Preparation for war takes time, effort and money. In the case of the US, which for the first time is faced with an opponent of great military strength and even greater potential, it is especially necessary to study with open minds the problem of waging war and to apply imagination, intelligence and practical experience to its solution. It is not the purpose of this article to set forth a definite military program which will win a war, but rather to point out the dangers that exist in believing in a simple, quick and easy way to achieve victory.

The misery, horror and cost of wars have made men ever hopeful of discovering quick and easy ways to effect victory for their cause. Secret weapons have long been a favorite means, held forth by some as a way to sure and quick victory. The liquid fire of the Greeks and the secret weapons of Herr Goebbels have been held out to people as devices for certain and cheap triumph. This is not to minimize the part played by true invention, but merely to say that fanciful dreams are no substitute for tried and tested weapons and courageous field forces. New and daring tactics which were to have brought quick victory, but actually were merely dreams and hopes of a commander, have had disastrous results; the ill-fated Nivelle offensive in WWI being perhaps one of the best examples. Emphasis on one branch has often led to defeat instead of the hoped for victory. The Romans' insistence on the primacy of the infantry in spite of the success of the barbarian cavalry led to Valens' defeat and death. The French neglect of infantry and archers spelled disastrous loss at Crecy. The German intoxication with perfect and complete plans for an entire war led to the brilliant Schlieffen Plan, but as soon as difficulties arose, the commanders were at a loss for modification of the plan and lacked the initiative to develop new plans and ideas to cope with the changed situation.

The lessons of history tend to prove that a people or a leader who relied too heavily on one weapon or one tactic was courting disaster in the long run. Victory has never had a simple key and, in all probability, does not today, in spite of the lure of some modern inventions. A more detailed examination of past 'keys' to quick, cheap victory would seem to prove worthwhile when considering the present world military situation.

There has been a general tendency in the past for some persons to seize upon new weapons and so overstate their potentialities as to create a very erroneous impression of their actual powers. This is the normal manner in which too great reliance is placed on one weapon, but not the only one. There is the opposite tendency to cling to the old weapons and to ignore or deprecate the new weapons and their capabilities.

In the first category, one might present the German Admiralty's claims for the submarine in WWI. During most of that war, the admirals begged that they be allowed to carry on unrestricted submarine warfare against the Allies. The civilian leaders were able to resist this pressure as long as there was good hope of victory on the land and to point out that a very dangerous consequence of this policy would be entrance of the US into the war and the generally unfriendly reaction of other neutrals. As the war dragged on a victory on land seemed less certain and, as the navy developed better submarines and made stronger claims, the leaders were less able to resist the navy's demands. The German General Staff in September 1916 backed the stand of the Admiralty. This combined pressure led the Kaiser to decree unrestricted warfare for early 1917, after German peace overtures had failed. It was not a last desperate gamble, according to Hindenburg, but a step which it was thought would break the stalemate and bring victory to the Germans in a very short time. The Admiralty claimed that they would bring Britain to her knees in a few months before American help could arrive, if the US did decide to enter the war.

In this instance, the decision to base all, or a great portion, of one's hope for victory on one weapon involved an extremely serious decision which eventually backfired and led to certain defeat; not only because America entered the war and sent help more quickly than was expected, but also because a defense was found against this weapon which defeated it and allowed American aid to pour to the Allies. The Allies had had experience with the submarines and suspected that the Germans might use them again, and so some preparations had been made. It is also true that, for some time, the British Admiralty opposed the convoy system which did defeat the submarines. All these facts must be considered, yet the central fact remains that a defense was found against this weapon which allowed Britain to continue the war and American aid to arrive in France in greater and greater quantities.

The weapon failed because there was a defense against it, and its failure was made worse by the diplomatic repercussions of its use. With America actually in the war, the Allies did not think of any outcome save victory. The mutinies of the French armies and the Russian withdrawal in 1917, were severe blows to the Allies, but had not the certainty of future American material and manpower aid been before their eyes, it is not improbable that some sort of negotiated peace might have taken place or the Germans might have even won the war.

Similar cases might be made for both the tank and airplane. After the introduction of the tank in WWI, many experts believed that it could win wars alone. These experts came into their own with the great German triumphs early in WWII;

WWI machine—to win by itself

but slowly defenses against tanks were developed and the tank became part of a team of infantry, artillery and airplanes which waged a new kind of war, but neither bloodless, cheap, nor always decisive.

Both sides may have tanks and make quick advances, but war is not shortened or made any more pleasant. There is some feeling now that because defenses have progressed so far against the tank, that it is obsolescent; an extreme view perhaps, but indicative of the rate at which defenses can be developed against a weapon at one time supposed to be able to sweep all before it.

Controversy still rages around the airplane. Because it adds a third dimension to war and is a vehicle for various arms, it is more difficult to come to any definite conclusions at this time. It appears, however, that the offensive possibilities of air power are at the present time considerably ahead of defense. Defenses against airpower are, however, being developed and it seems that the airplane as an offensive weapon may meet defensive obstacles in the way of defensive aircraft, guided missiles, dispersion and underground installations that will limit its power and bring it into line with the other weapons of war. It certainly will not cheapen or lessen the horror of war; it may shorten it, but even here there are considerable doubts.

One example of the too great faith in old weapons may illustrate that point clearly enough. The best

Maginot line — the French misjudged the trend

example seems to be one which happened a long time ago, namely the Battle of Crecy. The long period of French supremacy in the art of war, as practiced by mounted and armored knights armed with lance and sword, had developed not only a mind closed to other forms of warfare, but also (because of the social position of the mounted knight) a contempt for the unmounted and unarmored soldier. Here the closed mind of the successful warrior coupled with a social snobbery led the flower of French knighthood to a disastrous defeat and to almost complete annihilation.

The English had developed the long bow and tactics to fit it. These were used with devastating effect at the battle of Crecy. In this case, a new weapon was used properly and successfully against a foe who stubbornly held to the older weapons. But it must be remembered that the long bow did not remain such a complete weapon and it soon fitted into the pattern of the older weapons. It played its part, but was not the key, for long, to quick and bloodless victory for it did not end the Hundred Years War. In some cases, battles may be won or lost because of one weapon, but it is unlikely that any one side can count on superiority in one weapon for an entire war.

Another tendency among certain military thinkers is to overconcentrate on one branch or one tactic. The failure to adapt tactics to the time and the situation is numerous in history, but two or three examples will suffice. One of the master states of war, Rome, fell into the danger of failing to change her tactics. The Romans maintained their famous legion organization with its great emphasis on infantry long after it was clearly shown what trained cavalry, especially light cavalry, could do. It is true that they tried, too late and with great lack of imagination, to remedy this defect. The barbarians had developed a new type of war which was slowly but surely to overthrow the Roman Empire, weakened, it is true, by internal difficulties and old age pains.

A similar example, and one known to most patriotic Americans, is the case of Braddock in the French and Indian Wars. In that war, the British attempted to use the old continental tactics in America where a different type of warfare had developed, based on Indian tactics of infiltration, dispersion and movement.

The French were quicker to recognize the value of the American methods and, in collaboration with the Indians, were successful for a time against the British. Soon, however, the British with their colonial allies, particularly George Washington, used the new methods and ejected the French from America. It is worth noting that the American tactics were adopted by Napoleon and used very successfully against the continental armies in Europe

Another common tendency is to put too great faith in one method of fighting. The classic example here, of course, is the French faith in linear defense after WWI. It was not so much that the Maginot Line was a mistake, but that its strength or supposed strength, created a feeling and belief that this form of warfare was supreme. Actually, the lessons of WWI had tended, superficially at least, to show the defensive was superior. Massed attacks on strongly entrenched positions gained little ground at great cost in men and material. If this were so, the French argued, why would not steel and concrete fortifications, armed with immense fire power, be almost

impregnable? In their great desire for territorial security and forgetful of the last innovations of WWI, the tank and infiltration tactics, the French misjudged the trend of modern warfare. They overlooked the tank and airplane and their co-operation with infantry and artillery which would form a force of tremendous shock power and mobility.

The French saw the Civil War in Spain through curiously twisted glasses and thought it proved their theories correct. When the invasion came in 1940, the French stood on the Maginot Line and advanced into Belgium to form another line. The divisions were lined up side by side, their many tanks were scattered and interspersed to act as pill boxes, and there were few, if any, mobile reserves. Tactical surprise was achieved by the primary attack through the Ardennes Forest and the drive to the sea. New tactics, which made use of all the latest weapons, smashed through the line and then rolled it up. Linear and passive defense has failed to provide a flexible and effective defense, but its proponents are not all dead.

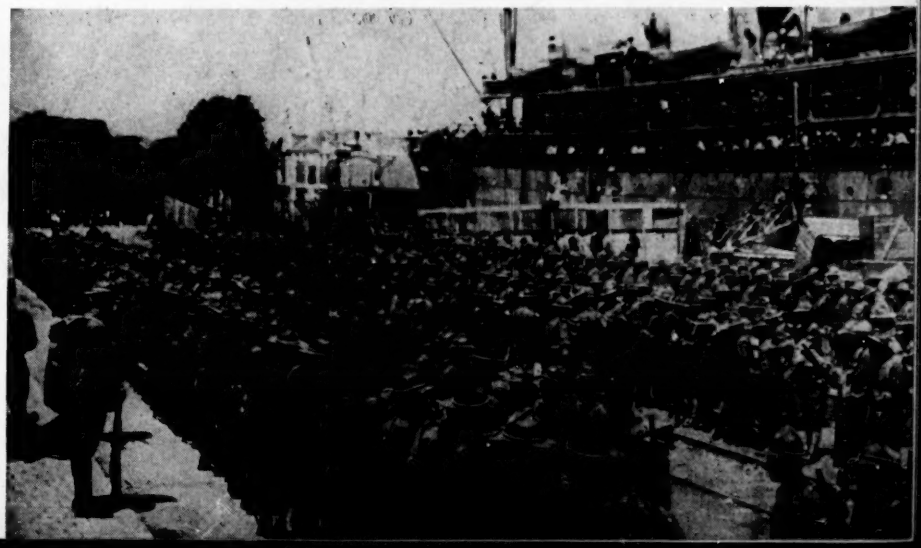
An idea particularly attractive to many military men and civilians is the concept that a small highly trained and equipped army is the most effective and will serve to protect a nation. This view has been held by many British, including Captain Liddel Hart, and also by as able a prophet as General DeGaulle. The latter in his *The Army of the Future,* advocated a 100,000-man professional army which he claimed would have 3 times the firepower and 10 times the speed of the French troops put in the field in August 1914. The allure of this concept to the public is based on its cheapness and the lack of need for universal conscription. The military man feels that a few highly trained and armed professional soldiers can do the work of many non-professionals. The public and the military both abhor mass armies and the idea of total war. The proponents of this idea point to the sane and sensible warfare of the 18th Century where small professional armies fought gentlemanly wars.

There are two weaknesses in the case for the small professional army. In the first place, its proponents forget that there is such a thing as mass production, which is able to equip mass armies just as well as smaller armies and so give greater numbers equal per capita firepower and speed. Second, and most important, these men seem to forget that, especially in modern war, there are such things as casualties and that even elite troops are not immune to the modern bullet and shell fragment. The small army is likely to be too greatly weakened in one or two battles, even though inflicting much higher casualties on the opposing mass army. Therefore, although this theory has the attraction of cheapness and less participation by the average citizen, it must be rejected. The rejection of the case for the small army does not invalidate the theory that small elite military formations of very high morale have a definite place in modern war and can perform special functions. It would be well to remember that God is on the side of the biggest battalions and that in modern history a very small number of battles have been won against superior numbers (Frederick the Great's victories at Leuthen and Rossbach and Napoleon's at Dresden being perhaps the most noteworthy exceptions). There is an amazing tendency to standardize weapons for all armies in the 20th Century and, in fact, in all historical times. Certain weapons may give a temporary advantage, but in the long run, superior numbers with excellent equipment have won.

The failure of the public to be aware of these lessons of history lies, it is believed, in the fact that the US has always been victorious in its wars. (One is apt to overlook the War of 1812.) Furthermore — and this is not usually noted and even more rarely accepted—our victories have been a result of superiority in numbers and quantity of material. Perhaps this is stating the proposition too strongly, and it might be safer to say that in our modern wars, at least, we have had the privilege and luxury of superiority in manpower, weapons and supplies. America has not been faced with the problems of winning a war when it has not had such overwhelming advantages. In WWI, the US entered the war after the important combatants had been struggling for 3 years. From behind the safety of 3,000 miles of ocean, we made hasty preparations for war and dispatched troops to France. By the end of 1917 there were about 6 American divisions in line, but 1918 saw the total number of troops reach about 2 million, including service troops. The American aid tipped the scales in favor of the Allies. In this case, fresh troops, trained with the experiences of the war in mind, helped stop the last great German offensive and led Foch's counteroffensive which brought the war to an end. The fresh troops and the materiel—above all, the almost unlimited supply of both available from America after the failure of the submarine campaign — was a great factor in the German decision to surrender. Certainly, in this case, America enjoyed her privileges of superiority of numbers and quantities.

WWII would tend to indicate that the same truths applied. By

Fresh troops and material tipped the scales in 1918



The capability of moving our overwhelming might to a decisive area

the time America entered the war, Germany was at war with the British Empire, Russia and the remnants of several other European nations whose efforts and colonial contributions were not insignificant. Italy was trying to assist Germany, but seems rather more of a handicap than an asset. Japan, by attacking the United States, did put pressure on the European nations holding colonies in the East, but brought the great military power of America, already being prepared by Roosevelt, into the war against Germany.

As early as 1942, it was clear, even to Hitler, that the resources of the Allies were so great as to preclude a German victory. Also by 1942, the Soviet armies had shown they could maintain themselves intact and even more, could push the Germans back.

The Italians were no match for the British in Africa and the Germans had to send help. The winter of 1941-42 was bleak for the Allies, but there were these encouraging signs: In the Pacific, Japan was successful, but as 1942 wore on, the US began to go on the offensive at Guadalcanal. Slowly, but surely, Russian numbers began to prevail in eastern Europe, American strength began to show in the Pacific and Anglo-American forces soon dominated the Mediterranean and Africa. By late 1943, Italy was out of the war and both Germany and Japan were pulling back and preparing for the final defense of the homeland. It is no slur on the fighting capacities of the Allied armies to say that they were provided with very excellent materiel and in the air, on the ground and on the sea, had more of everything and were themselves much more numerous than their opponents. There were local exceptions to this general observation, but they only contrast with the general superiority.

It must not be assumed that the Allies had all the troops and materiel that they needed or wanted. The global nature of the war and the many fronts made tremendous demands on all war materiels. The Pacific command felt that it was slighted in the allocation of manpower and materiel even though the basic strategic decision had been made to beat Hitler first. The troops in Italy in 1943-45 could well have received reinforcements and greater supplies. Even on the main front in France and Germany, there were shortages of ammunition in late fall of 1944 and the front was weakly held in some sectors; witness the Battle of the Bulge. Each of the armed services felt that it needed more manpower, and civilian authority had to insist on limitations in order to man the factories and other home front activities. Therefore, even in a war where the US and its Allies had overwhelming manpower and industrial superiority, there were shortages and difficult decisions of allotment to be made.

Allied resources were so great as to preclude a German victory

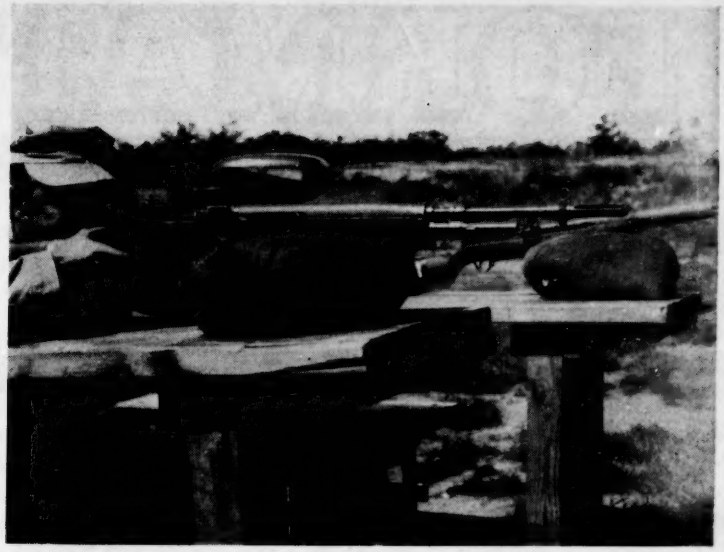
Today America is confronted by a more formidable enemy than she has faced in recent history. Russia has successfully resisted two of the modern world's greatest war machines, those of Napoleon and Hitler and today appears stronger than ever.

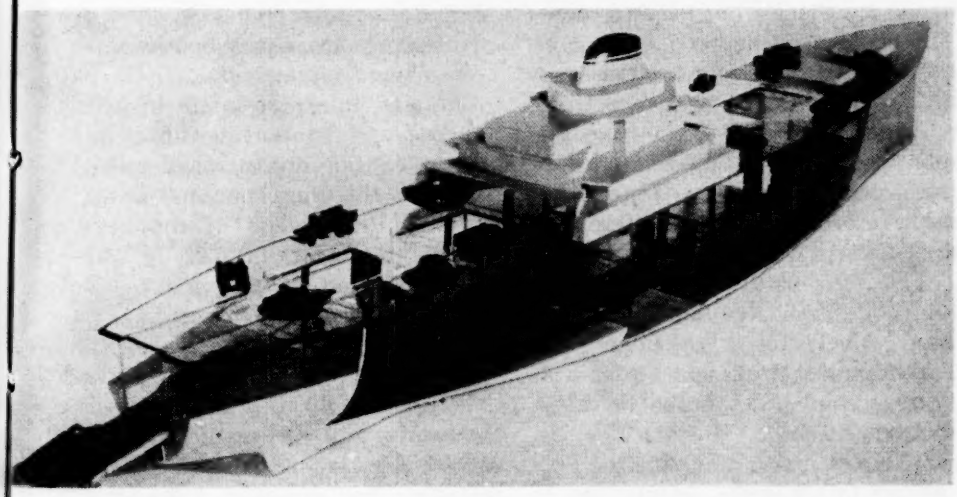
America, unaccustomed to living in constant danger from a powerful nation, has reacted as one would suspect to this new pressure. Periods of confidence followed by months of a deep anxiety and agitation over fear and violent preparation, reveal the new international situation and the too even balance of forces in the world. This is a natural time for a people, seized by such worries, to clutch, perhaps too strongly, at simple and easy means to security and victory. History has shown us how, when victory seems not assured, a people will seek most eagerly the easy means profferred. The wide acceptance of Gen Nivelle's promises by a discouraged and tired France in 1917, and the Goebbels' assurances of secret weapons by a staggering Germany in 1943 and 1944 are the extreme cases showing how easily a people will grasp at alluring but untested means to victory.

It has not been the purpose of this article to propose a positive military plan, but to indicate some of the lessons of history which may be of some value in grappling with current military problems. The advent of new means of delivery, supersonic aircraft, guided missiles and the great destructive power of atom and hydrogen bombs have made even more complex and baffling the preparation and planning for possible war. Whether these new factors have altered the general lessons of history, only time can tell. Present leadership must decide what lessons of the past seem to be valid and whether new ideas and weapons seem to have altered certain historic truths. It would be well to bear in mind men's past experiences, but it would be foolhardy to ignore the recent revolution in means of waging war. USMC

in brief

Troop tests on the new lightweight rifles have started. All service schools are participating in the tests which will be based on the M1 as a control for the light barrel rifles and with the BAR used as a control for the heavies. The test should determine the advantages of the new system over the standard weapons and determine if it has sufficient advantage to justify its adoption. At right, a Marine from MCS, Quantico fires a T-44 from a bench rest during the tests being conducted.



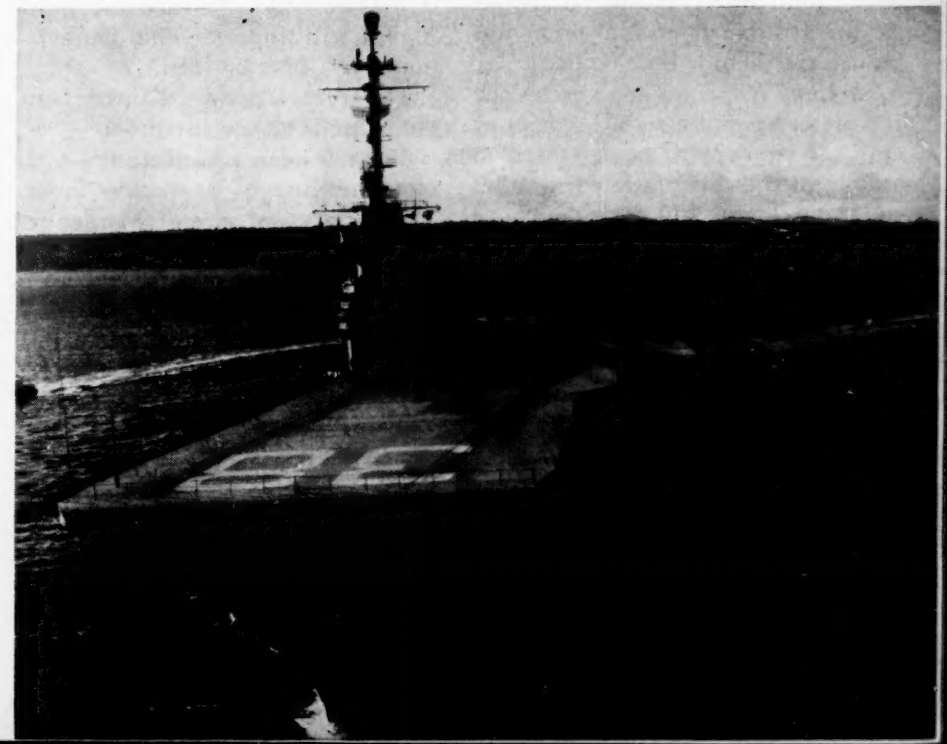


During the month of March the Air Force initiated airborne radar coverage over the Atlantic Coast through use of Super Constellations assigned to the Continental Air Defense Command. The radar equipped planes are based at Otis AFB, Mass. and will patrol hundreds of miles offshore to provide coverage beyond the range of fixed radar.

An old veteran of WWII the USS *Shangri-La* is the first attack carrier to embody all the latest improvements that are being made on carriers. Angled deck, enclosed bow and a tractor ramp around the outside, are a few of the improvements. (below)

The Plexiglas model of the Roll-on, Roll-off vehicle cargo ship will be constructed for use by MSTS. Vehicles will come aboard simultaneously through the fantail, aft and forward loading ports. They will follow a corkscrew route down midship ramps into the forward vehicle hold. (above)

The Army's battalion and regiment T/Os will probably be changed this summer when the infantry divisions are repackaged. The division would fight with 3 combat commands and under each command would be battle groups, somewhat larger than present battalions. The reorganized division would not be much smaller than the present infantry division. With more and smaller elements, however, it would have greater mobility and balance.



FORMAT

. . . of the new Marine Corps Operation Order

By Capt Clark V. Judge

IN AN EFFORT TO SIMPLIFY AND clarify the process of issuing field orders, the Marine Corps approved the new operation order. The present format is generally a modification of the old form with the additions and deletions designed to make the commander's desires more clear.

This article discusses the new operation order format, emphasizing significant changes and deletions, for readers who do not have ready access to revised manuals.

Heading

Changes from oral orders, if any, are first indicated in parentheses. This allows the commander to issue an oral operation order soon after he has received his mission, thereby giving his subordinates maximum planning time. He may follow that oral order with a written copy. The recipient will see immediately if any changes have occurred in the interim and, if so, where the changes are. Such expressions as "No change from oral orders," or "No change from oral orders except paragraph 5" are typical. If no oral order was issued this item will be omitted.

A *Copy No.* is assigned each copy of the order and a record is kept of the specific copy or copies given to those on the distribution list. This addition to the old form will give better control over the classified orders and make standard similar methods used by many staff officers.

The technique for indicating the *Issuing Headquarters* remains unchanged.

The *Place of Issue* will be designated in one of 4 ways: (1) By a geographical location, including map co-ordinates. (2) By postal designator. (3) By a code name. (4) By the expression IN THE FIELD. The location is always capitalized.

The *Date/Time Group* is shown by the standard 6-digit sequence, followed by the month and year. It indicates the date and time the order was signed and became effective, unless stated to the contrary in (3).

The *Message Reference Number* consists of letters, numbers or a combination of letters and numbers assigned by the issuing headquarters. This reference number has no connection with message center nor should it show any sequence from one operation order to the next. Its sole purpose is to allow reference to the order in the clear. Three consecutive orders might be referenced as follows: RLS, 8815, 2QR.

The *Title* of the order is spelled out (not abbreviated) and *numbered* consecutively for a calendar year. For example, Operation Order 2-55 is the second order issued in calendar year 1955.

The *References* designate the documents (SOPs, maps, charts, photomaps) necessary to an understanding of the order and not attached to it. If no references are used the word "none" will appear. The abbreviation "Ref" may be used.

The *Time Zone* used throughout the order is always listed.

These 9 items constitute the complete heading of a written order. The heading of any oral order remains as an orientation of the subordinate leaders to include terrain features, directions and those other details of the area of operations that will be referred to in the body of the order. The body of the order contains a task organization, when one is used, and the 5 main paragraphs that give the operation order its name—the "5 paragraph order."

Body

The *Task Organization* remains unchanged, except that the units not assigned a tactical mission for this operation will be shown together as group (a). The tactical units will be listed as (b), (c), etc., the letter corresponding to the subparagraph of paragraph 3 pertaining specifically to that unit. It should be remembered that a task organization is designed to make clear the tactical groupings of a command. If the groupings are relatively simple, as is often the case in an infantry battalion and regiment, it is not necessary to include a task organization, but show attachments in paragraph 3.

1. SITUATION: This paragraph is devoted exclusively to information and contains no part of the plan or instructions of the commander. Paragraph 1 of the written order always contains 3 subparagraphs.

(a) Enemy forces

No change from previous form.

(b) Friendly forces

Contains information of higher, adjacent and supporting units, in that order, but not attached units. Normally this "information" is set down as the mission of the next higher unit, identification of the flank units, and a listing of the supporting units with their mission.

(c) Attachments and detachments

Show here attached units for this operation which are not organic to the issuing unit, or organic units detached away from the issuing headquarters. For example, a battalion commander would not indicate in this subparagraph any attachments of his weapons company to his rifle companies, but he would list a section of 75s, for instance, if regiment had attached them to this battalion. If the attachments are shown in the task organization, this subparagraph will contain a remark such as "Task Organization" or "Annex B (Task Organization)." If there is no pertinent information to show, the word "none" will appear.

2. MISSION. This paragraph will only contain a statement of the task of the issuing unit and its purpose. There are no subparagraphs. It may be an exact reproduction of the mission given by the next higher unit—written out in full.

3. EXECUTION: This paragraph gives specific instructions to the subordinate units, organic and attached,

charged with the execution of tactical details for carrying out the mission.

(a) The first subparagraph will always contain a brief summary of the operational concept on which the tactical assignments are based. It amplifies paragraph 2 by telling *how* the mission will be accomplished. This concept may amount to no more than the formation (2d Bn defends assigned sector with Co D and Co E on line and Co F in reserve). Or it may show briefly how a relief of the lines is planned, for example. It is designed to make known the commander's concept of the operation to the subordinate leaders to give them a better understanding of their part in the operation. This subparagraph lends itself to graphic portrayal in which case it need not be written out.

(b) (c) (d) (e), etc. Subsequent subparagraphs are assigned, in order, to the major subordinate elements (except those in reserve) in numerical or alphabetical sequence. The major elements are followed by the organic supporting units and then attached units. The next to the last subparagraph is headed *"(unit) Reserve."* The reserve subparagraph is ordinate units may be shown.

Co-ordinating instructions head the last subparagraph. It consists of the information formerly appearing in the old *2b* and *3x* subparagraphs. This item is given the next letters in alphabetical order that logically follows.

4. ADMINISTRATION AND LOGISTICS

No change from the old format.

5. COMMAND AND COMMUNICATIONS–ELECTRONICS

There is little change to this paragraph. The most prominent variation is avoiding the word "signal" wherever practicable and substituting "communication."

(a) The first subparagraph contains communication instructions or a reference to pertinent publications, such as COI and SOP.

(b) The second subparagraph shows the location of the command post of the issuing unit. CPs of the next higher and major subordinate units may also be shown.

(c) (d) (e) — Any additional subparagraphs will be used as required.

Ending

The ending of the written operation order contains acknowledgment instructions, the signature, a list of annexes, if any, the distribution and the authentication. The techiques are familiar with the exception of the first item. Acknowledgment instructions are included, when necessary, to let the commander know that the order has been received and understood. Such statements as "Acknowledge receipt" or "Acknowledge over wire circuits only" are typical. The recipient will make use of the message reference number listed in the heading — "I acknowledge 2QR."

The additions, e.g., deletions and modifications *(3x)* to the old order were designed to reduce the chance that the order would be misunderstood. However, it is the words filling this outline that determine the order's clarity. A discussion of techniques in preparing operation orders would make a logical sequel. USMC

CLASSIFICATION
(Changes from oral/verbal orders, if any)
COPY NO. _____
Issuing Headquarters
PLACE OF ISSUE
Date/Time Group
Message reference number
Operation Order _____
Ref:
Time Zone:
Task Organization:
1. SITUATION
   a. Enemy forces
   b. Friendly forces
   c. Attachments and detachments
2. MISSION
3. EXECUTION
   a. Concept of operation
   b, c, d, etc. - Tactical assignments to subordinate elements
   Co-ordinating instructions
4. ADMINISTRATION AND LOGISTICS
5. COMMAND AND COMMUNICATIONS-ELECTRONICS
   a. Communications - electronics
   b. CPs
   c. Axis of communication
   d, e, etc. As needed
(Acknowledge instructions)

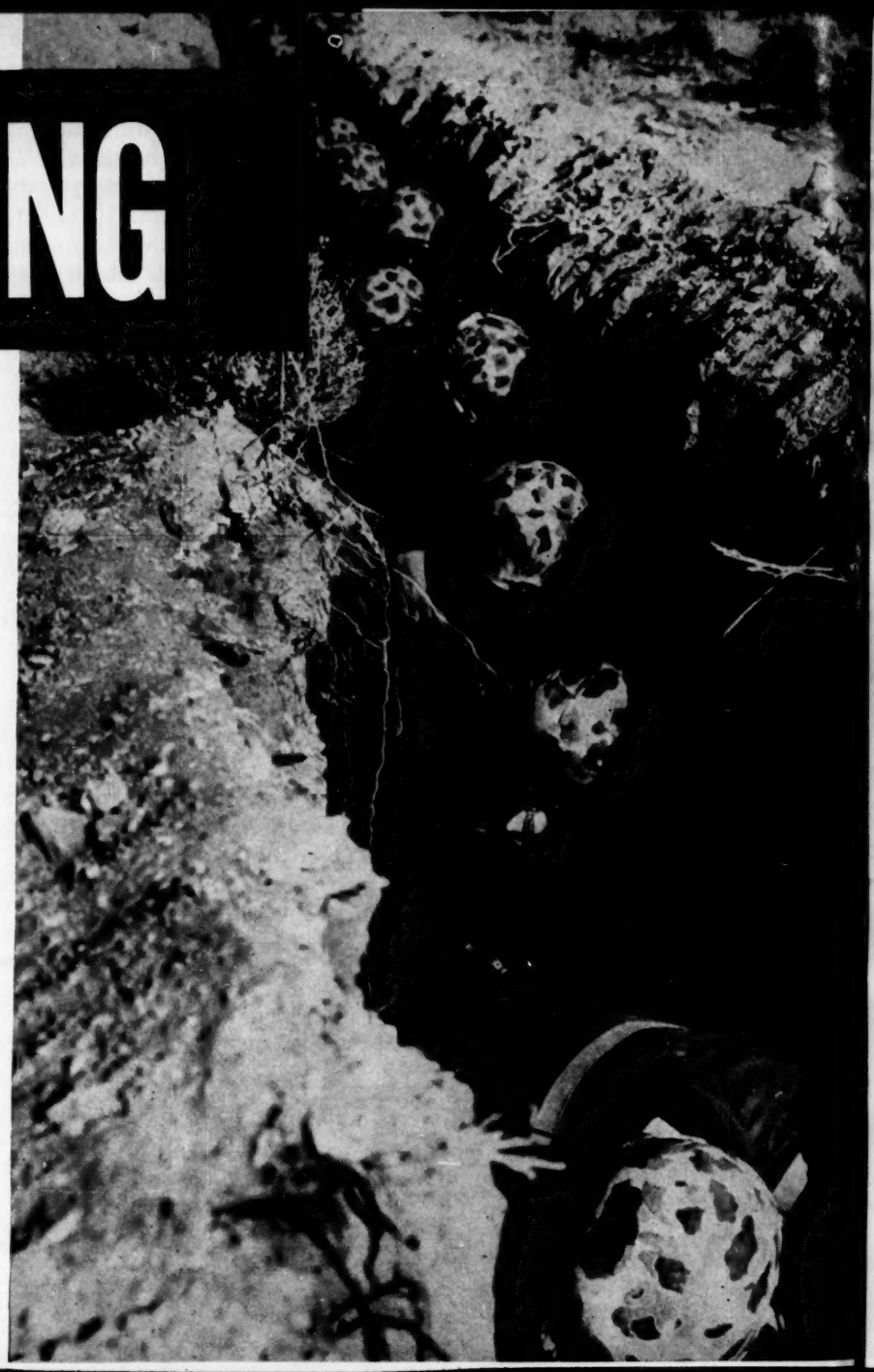
Annexes Signature
Distribution
Authentication CLASSIFICATION

CLASSIFICATION
Issuing Headquarters
Place of issue
Date and time
Operation Order _____
Maps:
Task Organization:
1. GENERAL SITUATION
   a. Enemy forces
   b. Friendly forces
2. MISSION
3. TASKS FOR SUBORDINATE UNITS
   x. Instructions common to two or more units necessary for co-ordination
4. ADMINISTRATIVE AND LOGISTICAL MATTERS
5. COMMAND AND SIGNAL MATTERS

Annexes (listed)
Distribution COMMANDER
Authentication

At the left is the new Marine Corps Operation order and above is the old. Compare the significant changes and deletions as you read the explanation.

PLANNING FOR ATOMIC WAR



In a passive defense, unpreparedness cannot b

By Maj John J. Reber

WHEN THE FIRST ATOMIC BOMB exploded over Hiroshima thousands of Japanese were injured or killed because they were not prepared for such a disaster. For instance, it was not until 5 days later that outside help finally reached the stricken city. In the meantime, countless thousands died. Today, unpreparedness would not be acceptable as an excuse in similar circumstances.

During the past 7 years much has been learned about the effects of an atomic explosion and how these effects can be minimized. Many technical articles have been written on the physics of nuclear fission. This information has been widely disseminated. However, very little has been written on how to plan against an atomic attack. Yet this is the very thing which a commander must know. It is the purpose of this article to point out to commanders and potential commanders, both in the field and at posts and stations, some of the basic considerations of atomic defense planning.

A commander who must prepare an atomic defense plan need not be a qualified nuclear physicist. True, some of the technical knowledge required by a commander is specialized, but as with other functions, such as communications, supply and intelligence, the commander will have staff advisers in atomic defense to supply this specialized knowledge. Therefore, only the main factors to be considered by the commander himself will be presented in this article. These factors may be summarized as follows:

(1) Warning, (2) Rescue, Evacuation and Damage Control Teams, (3) Shelter, (4) Medical Casualty Control Systems, (5) Military Police, (6) Mutual Aid, (7) Radiological Units, (8) Intervention In Civil Affairs, (9) Training.

Before delving into the details of planning, the objective of such a plan must be considered, and also, the situations where the plan might be put into effect.

In general, every military defense plan written, whether it be for defense against chemical attack, incendiary bombs or disasters caused by nature, has had the same objectives. These objectives may be listed as follows:

(1) To enable the unit to carry

out its mission with a minimum of interference.

(2) To prepare the unit concerned to meet the attack or disaster.

(3) To minimize losses in personnel, equipment and facilities.

(4) To render such emergency assistance as may be possible to neighboring units and, when directed, to civilian installations.

It is the duty of the military commander to prepare an atomic defense plan for this particular situation which will attain these objectives.

There are 3 main situations in which a commander might find himself, and in which atomic weapons might be used. These are:

(1) Forward elements of military forces in the field in contact with the enemy.

(2) The zone of communications, such as advanced naval bases and airfields.

(3) Various kinds of military installations within the continental limits of the United States.

The problems presented in an atomic attack differ principally only in magnitude from the already well known problems introduced by saturation bombing with HE and incendiaries during WWII. The radiological hazard is the only new problem introduced by the atomic bomb. It should be clearly understood that the effects of nuclear radiation are not usually the most important aspects of an atomic attack. The atomic bomb is primarily a blast or thermal weapon. Nevertheless, new problems are introduced by the radiological hazard and it is essential that the commander have a clear understanding of these problems in order to plan an effective defense against them.

The plan to be effected will chiefly depend on whether the burst is contaminating, or non-contaminating. For this reason it might be well to describe the various types of bursts.

A high air burst, over 2,000 feet, is non-contaminating and the radiological hazard is at a minimum. The only hazard at this time is the radiation from the ball of fire as it rises rapidly through the atmosphere. Three minutes after the detonation this hazard ceases to exist, and troops may move safely across ground zero —the point on the earth directly below the explosion.

If the atomic cloud has a dark stem, and a cloud of dirt and dust is seen to spread and rise above the point of detonation, it indicates a surface burst. This type of burst presents a serious radiological hazard. Earth and other debris would be thrown into the air and as a result a huge crater would be formed. The hazard will be greatest at the crater; however, the dirt and dust sucked up by the cloud may contaminate an area some distance away depending upon the prevailing winds at the time of the burst.

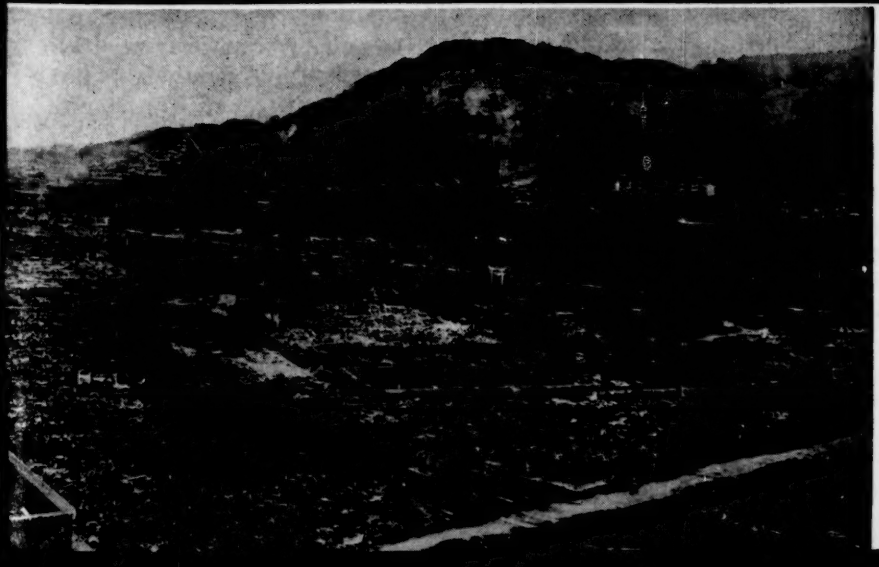
The most significant indication of an underground burst would be the earth shock accompanied by the many thousands of tons of dirt thrown into the air. As the dirt falls back to earth, it produces an expanding cloud of fine dust particles which is very radioactive. Every precaution should be taken to avoid this dust cloud as it presents a difficult decontamination problem and a serious internal hazard. Gas masks and other protective cover, such as the plastic gas bag, offer good protection from the dust.

If the command is located near a Navy Yard, or near any coastal installation which is a potential A-bomb target, there is a possibility of an underwater burst. The base surge and fall-out from the burst would produce a very serious radiological hazard on the land areas near the burst.

Keeping this background material in mind, let us now place ourselves in a field commander's shoes and go through, step by step, the factors which must be considered in preparing an effective plan.

As in other planning, an estimate of the situation must first be made. In considering the ways in which an enemy might use the bomb against troops in the field, it becomes fairly clear that it would be used as a thermal weapon, rather than a blast weapon. We can disregard its being used primarily for its radiological effects, since casualties resulting from nuclear radiation are likely to be comparatively few as proven in the Hiroshima and Nagasaki explosions. Likewise, it is highly improbable that the bomb will be used primarily as a blast weapon. Blast injuries are caused mainly by the secondary effects of the blast, collapsing buildings and debris thrown about by the blast. Relatively low blast pressures will cause such injuries. For example, 3.5 pounds per square inch, above atmospheric, will demolish a brick building. Since buildings, or other sources of debris, are practically non-existent in a combat zone, blast injuries will not be a major problem. Likewise it is highly improbable that the bomb will be used as a blast weapon against supply areas. Supplies are normally dispersed sufficiently to make it uneconomical for an enemy to use an A-bomb to destroy them. HE and incendiary shells, or bombs, could be just as effective and much cheaper. Thus we come to the conclusion that the enemy would use the bomb primarily as a thermal

not be accepted as an excuse for an atomic disaster



A rough survey of the contaminated area

weapon against troops in the field; that he will select a clear day for the attack, since haze reduces the effectiveness of thermal radiation; and that he will use a high air burst in order to obtain the maximum range of thermal radiation. It must be kept in mind that thermal radiation has a greater range than blast and nuclear radiation.

Getting down to the actual provision of the plan itself, one of the first things a commander must do is to provide some means of receiving early warning that an attack is imminent. In most cases, this is provided for by higher echelons in nearby areas. However, he may have to rely mainly on his own intelligence section for this information.

After the warning has been received, the members of the command must be notified that an attack is likely to occur and that the plan is to be put into effect. To accomplish this, some signal, which can be heard by all units of the command, must be provided. The standard red alert consists of a fluctuating or warbling signal of varying pitch by sirens, or a series of short blasts by horns or whistles. The "all-clear" consists of 3 one-minute blasts of sirens, horns, or whistles, interrupted by 2 minutes of silence.

In addition to a warning system, shelter must be provided. Trenches and fox holes offer simple yet effective shelter for the protection of personnel. The main fault being that they do not offer protection from above. However, the deeper they are the better the protection from thermal radiation. Some scattered nuclear radiation may be received in fox holes and trenches, but the dosage will be comparatively small. Bunkers, caves and tunnels offer best shelter in the field. Care must be taken in the use of sand bags around bunkers, and equipment. If they are too close to the explosion, thermal radiation may scorch or burn the burlap, thus spilling the contents. So if atomic warfare is likely, digging in of supplies, equipment and personnel will be better than sandbagging above ground. Advantage of the terrain should be taken where possible. A hill between an individual, or equipment, and the bomb explosion will cut off practically all of thermal radiation and greatly reduce the blast and nuclear radiation. This was demonstrated in the Nagasaki bombing. Clothing provides good protection against thermal radiation and personnel should be instructed to cover as much of their bodies as possible at the first warning of an atomic attack. Finally, in cases where a large number of personnel must remain in the open and cannot take shelter, such as during an amphibious landing, a smoke screen will greatly reduce the effect of thermal radiation and consequently decrease the burn casualties.

One of the major functions which the commander will have to provide for is a Medical Casualty Control System. First Aid Stations will be needed immediately after the attack. In addition to giving first aid, these stations might be considered a medical evaluation center since they will decide on the disposition of casualties. Casualties will be received at these stations and given non-symptomatic treatment; ambulatory cases will be treated and then released; non-ambulatory cases, and those requiring immediate care, will be sent to medical collection centers. Medical collection centers might well be thought of as clearing houses for medical casualties. Casualties arriving at the collection centers are further dispatched to hospitals and clinics for definitive treatment in rear areas.

Military Police will play a very important role after the attack. Their duties will not differ greatly from their normal duties. The primary duty of the MPs, of course, is to control traffic. However, due to the nature of the disaster there will be some special problems introduced. In case of a contaminating burst, the MPs must prevent persons from entering contaminated areas, mainly to prevent them from spreading contamination. Road signs must be posted as soon as possible to mark contaminated areas, as well as evacuation routes to first aid stations and decontamination centers.

If any one factor of the plan could be singled out as the most important, it would be the provision for Mutual Aid. An atomic attack on, or in the vicinity of, a command would effectively saturate its defensive capabilities. In such a case, the stricken unit would depend almost entirely on assistance provided by neighboring units. The Mutual Aid provision of the plan should not only consider assistance most likely to be needed, but should also provide for assistance which the unit might be able to give to others. In order to accomplish this most effectively, close liaison between neighboring units and higher headquarters is imperative.

The principle requirements of the commander with regard to the radiological hazard is that he be able to recognize the existence of the hazard and determine its importance. A preliminary estimate of the hazard

can be obtained by observing the type of burst. For this reason the radiological defense officer should be prepared to observe the burst from his shelter as soon as warning is received that an attack is imminent. He should also be prepared to detect signs of radiological warfare, other than an A-bomb attack.

The radiological organization of the plan should include Survey Teams, Safety Monitors, Instrument Repairmen and Decontamination Teams.

The most immediate objective of the radiological defense organization is to provide data for an estimate of the situation. The Survey Teams gather this data by making a rough, preliminary survey of the contaminated area. In surveying the area, speed and accuracy are the most important considerations. For this reason helicopters will be very effective because of their low speed and maneuverability. However, they are not always available and jeeps will do a good job in their place.

The minimum number of men needed for each Survey Team is 3 — an instrument man, a recorder and a communicator. The number of Survey Teams needed will depend upon the situation. However, sufficient personnel must be provided to take care of team casualties, as well as to allow rotation of personnel working in high intensity areas. The instrument man should be equipped with both an ion chamber-type radiac instrument for high intensity areas, as well as a G-M type instrument for low intensity work. The recorder should be supplied with data sheets, a watch, flashlight and pencils. The communicator will need a handy-walky radio set such as the AN/PRC-6. All members of the team should wear outer protective clothing covering as much of the body as possible with a minimum of openings; disposable canvas boots over their shoes; as well as gloves, headgear and in some cases, gas masks. Much of this material is available from regular sources of supply, the rest can be improvised.

Foxhole . . . simple, effective

After the rough survey has been completed and the extent of the hazard has been determined, boundaries must be established around contaminated areas and definite traffic route must be set up. This is a function of the MPs as explained earlier. At times it may be necessary to send emergency crews into contaminated areas to rescue trapped persons or to recover equipment. Safety Monitors must be included in the plan to provide protection for these crews. These monitors will warn the crews when they have received the maximum allowable dosage thereby allowing the crews to perform the maximum amount of work before they are relieved, and also prevent them from becoming radiation casualties.

The work of the Safety Monitors can be performed by one man. He should be equipped with a G-M type instrument, a proportional counter to measure the alpha hazard and a pocket chamber or dosimeter. The latter instruments make a quantitative measurement and will tell instantly the amount of radiation an individual has accumulated over a period of time. The Safety Monitor should wear protective clothing similar to those worn by the Survey Teams.

Before discussing the mission of the decontamination teams, some concept of the nature of the contaminent must be understood. It should be emphasized at the beginning that contamination cannot be destroyed. To reduce the radiological hazard 2 things can be done. First, allow the contamination to age and thereby decay to a safe level. Second, remove the contamination from one area to an area which is not important. For example, the contaminant can be buried at sea or in the earth, or it can be entombed in abandoned caves or mines. Removing the contaminant even in the most simple case is a very difficult, and usually an ineffective process requiring the use of special equipment and techniques. If the tactical situation permits, contaminated equipment should be allowed to decay by aging until it reaches a safe level. Beta and gamma radiation decay rapidly and the hazard is greatly reduced in a few days. However, the danger of alpha radiation may —and usually will be—still present. Although the activity of the alpha particle does not decrease very rapidly, they have very little penetrating power and a good coat of paint, plastic, asphalt or other sealing compound will form a very effective shield against these radiations.

A preventive measure which the commander might take, depending upon the circumstances, is to coat his equipment with a plastic material similar to that used in mothballing ships after WWII. If the equipment then becomes contaminated, the plastic coating can be stripped off and disposed of by one of the means previously mentioned. Most of the alpha particles will be contained in the stripped off coating. Then the equipment can be decontaminated by one of the standard methods, depending upon the type of surface.

Decontamination teams should be of 2 types—Personnel Decontamination and Material Decontamination. Material and Decontamination Teams may make either a rough or a detailed decontamination. Rough decontamination is essentially an emergency measure; its purpose is to reduce contamination to a level which will permit personnel to work with the equipment for a limited period. Rough decontamination can usually be effected by the use of steam or water. Since the waste water will be highly contaminated, drainage will be a problem.

Detailed decontamination is a complex process involving a great variety of materials and equipment even for the most simple cases. The techniques and materials to be used are largely determined by the type of surface which is to be decontaminated. In short, the purpose is to remove the contaminated surface. Once the surface is removed it must be buried or entombed. For example, a painted metal surface can be decontaminated by burning the paint, scraping off the ashes, and then burying or entombing the radioactive ashes. For decontamina-

tion, personnel need waterproof clothing such as the Navy's foul weather gear. A respirator or gas mask will prevent inhalation of contaminated particles.

The mission of the Personnel Decontamination Team is not only to decontaminate the individual but to prevent the individual from spreading the contamination. The focal point of the team is the change house which should be located at the point of exit from the contaminated area. Briefly, the decontamination procedure consists of monitoring the individual; disposing of his clothing if contaminated; showering and then monitoring again. After he is decontaminated, he is issued clean clothing. Here again the contaminated waste water from the showers, as well as the contaminated clothing, must be removed or it will create a hazard. Personnel monitors should use proportional counters. Soap, water and clean clothing are the principal items of supply. A new soap recently developed for the services contains a complexing agent and detergent which is of special value for decontaminating purposes. The soap is to be in bar, flake and powder form.

To complete the organization of the radiological unit, facilities for instrument repair must be available. Faulty instruments can be worse than no instruments at all. The signal repair shop will usually have a qualified raidac instrument repairman. Many of the radio repairmen and radio technicians (MOS 2611 and 2619) have qualified as radiac repairmen by attending one of the Armed Forces schools.

Plan a complete defense

On the whole, the tactical situation will determine the course of action to be taken when contamination is present. But intelligent decisions by the commander, based on the advice of the Radiological Defense Officer, may well prevent endangering his entire command. Shell or small arms fire may kill 10 per cent of command, injure 20 per cent but spare the remaining 70 per cent. On the other hand, while nuclear radiation may kill 10 per cent of the command, the remaining 90 per cent will not have escaped some injury.

The problems facing the commander of a military installation within the continental limits of the US especially if it is located near a civilian community, differ in many respects from the problems facing a field commander.

In most cases he will not be responsible for preparing a complete atomic defense plan for his command. Depending upon the size of his command, he may be required to prepare anything from a company order up to a fairly detailed supporting plan for the overall sector plan. The Marine commander will undoubtedly be called upon to furnish personnel and equipment in support of the sector, or sub-sector, plan. The sector plan will be prepared by the Army or Navy co-ordinator of the sector. Sectors of responsibility, coinciding with Army Areas, are set up for co-ordinating the planning for catastrophes such as earthquakes, floods, fires and atomic explosions. The utilization of Naval or Marine personnel in an Army plan presents a rather unusual situation. The Joint Chiefs of Staff ruled there would be no joint commands within the continental limits of the US, therefore, the Army commander who is responsible for a certain sector is referred to as a "co-ordinator" rather than a "commander."

Before delving into the details of the plan, an estimate of how the enemy might use the bomb must be made in order that the types of equipment, shelter and the duties of personnel can be determined.

An enemy would use the bomb primarily as a blast weapon against a military installation in the US. There are a few exceptions which will be brought out later. The secondary effects of the blast, that is collapsing buildings and flying debris, will cause the major personnel casualties. Disrupted utility service and damaged equipment will also result from the blast; water, gas and fuel pipes will be ruptured, power plants will be damaged. These are some of the problems which a field commander would not ordinarily have to plan for; however, they become major factors in the plan of the commander in the US. So in addition to the teams which the field commander must provide, the commander in the US must include many other teams to take care of the additional problems. Rescue and Evacuation Teams will be needed to release trapped persons and guide them out of the stricken area. Damage Control Teams will be needed to fight fires and cap off utilities such as gas, fuel, water and electric power. Such action will not only help prevent compounding the damage which might otherwise result, but will also aid in saving these precious items.

While a high air burst would probably be used against the majority of the military targets in the US, a surface or subsurface burst would be very effective when used to crater major airfields, block narrow channels to important harbors, or destory submarine pens. Radio activity becomes a serious factor in the surface or subsurface burst. In addition to the instantaneous nuclear radiation, there will be the even more serious residual radioactivity. A 20 KT bomb detonated 50 feet underground would produce an extremely radioactive crater about 100 feet deep and 800 feet in diameter. The radioactive dirt thrown out of such a crater would contaminate the area around the crater. Residual radioactivity in, and in the vicinity of, the crater would thus prevent personnel from working in the area for some time, thereby denying us the use of the airfield, harbor, or other installation. If the commander is located near a target area where a surface or subsurface burst is likely to be used, he must provide for more radiological teams than he would otherwise.

If the military installation is lo-

. . . and aid to civilians

cated near a civilian community, the commander may have the additional problem of intervening in civil affairs. Although aid to civilians may at first appear to be almost entirely a civil defense responsibility, the commander must be realistic in his planning for this part of his mission. While many civic-minded individuals are doing their utmost to make civil defense a capable organization, it is far from being such at the present time. Today it could not begin to cope with the many problems resulting from an atomic attack. However, the commander must use discretion when dealing with civilian communities. If possible, he should wait until state authorities make a request to the President for military aid, or until the President, by proclamation, has the military intervene for some reason or another. Under military aid, the military can take no punitive action but can take preventative action. As to the authority of senior naval officers present taking action in emergencies resulting from catastrophes, the decisions of the JAG have been to the effect that the senior naval officer present could take such action as the necessity of the case may require. However, it has been stated further that the extent and character of the action was one for the exercise of sound discretion, bearing in mind that the officer may be held personally responsible for unreasonable or excessive exercise of authority.

Thus we have some idea of the type of equipment and the duties of the personnel needed.

In preparing his plan, the first thing which the Marine commander must do is consult the plan of the higher echelon in his sector and determine his responsibilities as set forth in that plan. In addition to furnishing personnel and equipment to higher echelons, he must also take care of the immediate needs of his own unit at the time of the attack. Principally this will include warning and shelter. No commander is expected, nor would he be able, to furnish all equipment and personnel necessary to care for all his needs after an atomic attack. It is repeated that mutual aid, in this case provided for in the sector plan, is the most important factor of the overall planning.

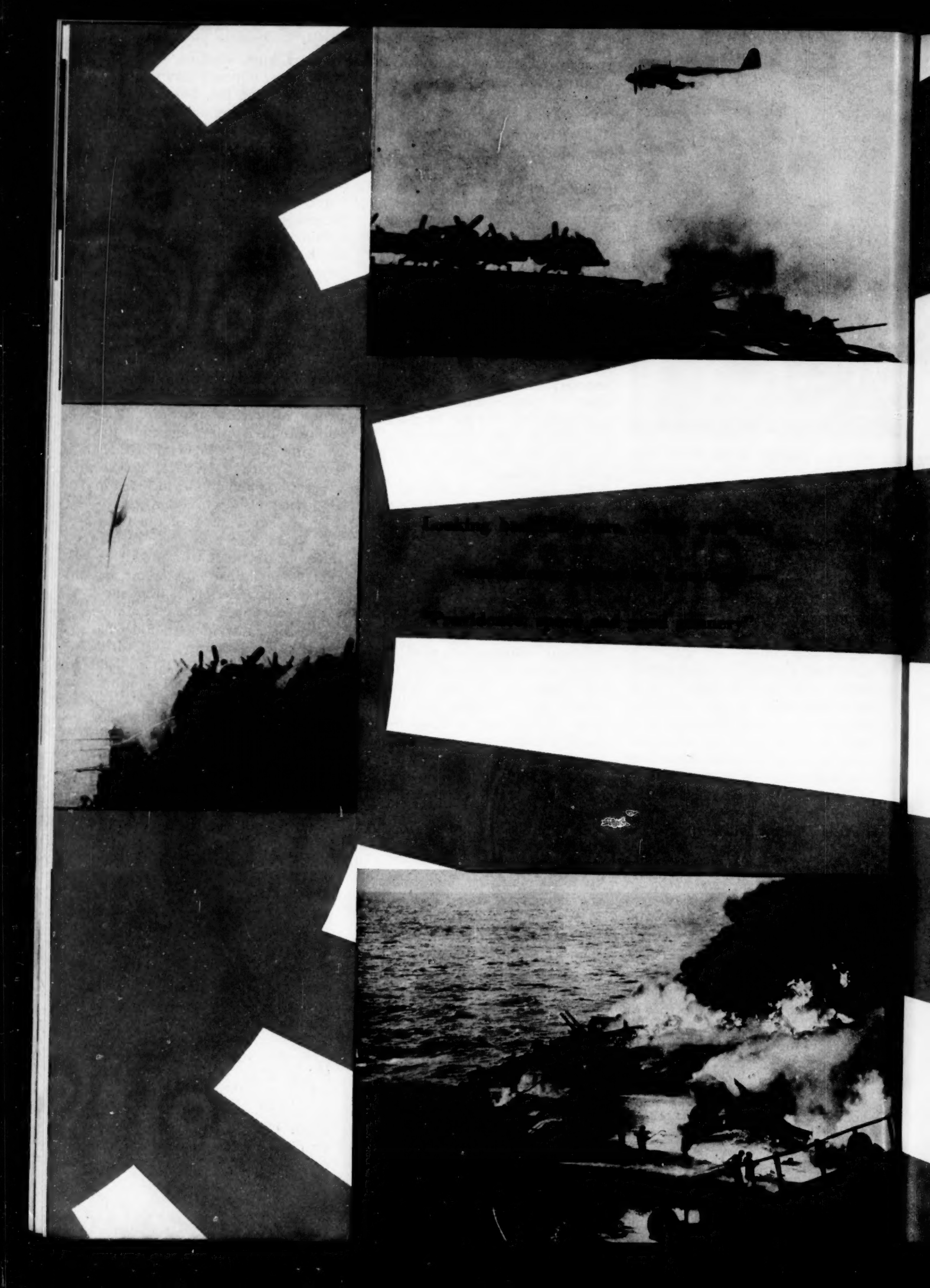
The commander should be prepared to either furnish the following teams to higher echelons, or make use of them within his own command immediately after the attack; Rescue, Evacuation and Damage Control teams, First Aid and other Medical teams, Military Police Units and Radiological Teams. Different commanders might give other names to the various teams, but regardless of what they are called, their missions will be the same. The number of teams for immediate use within the command would vary according to the size of the command and its physical location with regard to other military installations.

In addition to these teams, the commander must include in his plan; provisions for receiving warning of an attack, notifying the members of the command that an attack is likely to occur, and that the plan is to be put into effect and sheltering of personnel. With regard to shelter, a survey must be made of existing buildings and areas which would provide the best protection. Generally it is best to get as much thick, heavy materiel as possible between the individual and the blast. This provides maximum protection. The best protection can be obtained in the lowest floor or basement of a reinforced concrete or steel framed building. It is best to get near the walls, or supporting columns and to stay away from windows. Wooden buildings are not only very vulnerable to blast and fire, but they also provide little shelter against nuclear radiation. Such buildings are to be avoided. Tunnels, storm drains and subways should not be overlooked as possible shelter assignments.

As with any other plan, its effectiveness is mainly determined by the training of the personnel. Training can be placed in 2 different categories. First, general indoctrination of all hands; second, special individual training needed by members of the various teams. In both cases emphasis should be palaced on what the individual should do and not (as it often is) on statistical information of the bomb's effects, or the psysics of nuclear reactions. The author especially recommends the training film, "Survival Under Atomic Attack" (MN-7325, 25 minutes running time) to be included in any general indoctrination course. The mission of most of the teams will be in line with their regular duties. This holds true for all except decontamination, monitor and survey teams. Personnel from these teams will need special training. After the individual training has reached a satisfactory level, drills and practice alerts should be held to smooth out details in co-ordination.

A few final words about the plan. Make the plan brief and simple so that the immediate basic actions can be readily memorized. Too lengthy a document will discourage people from reading it. Be sure that it can be carried out with the forces available, that it can be accomplished within the required time limit and that the results are worth the cost. Make it realistic. Have it as detailed as possible but do not build it around any hypothetical situation. And—this is most important—write the plan so that it need not be classified. A plan which must be locked up in a safe—instead of being published on every bulletin board — will probably fail the instant the commander tries to put it into effect.

It is hoped that no commander will ever have to put his plan into effect. But a good workable plan is excellent insurance against an atomic attack. USMC



...e divine wind

FROM IMPERIAL NAVAL HEADquarters in Tokyo, Adm Toyoda released word of the long-awaited return of the "Divine Wind" to Japan. When he ordered Adm Kurita to take the Second Fleet into battle off the Philip...

...after a timely typhoon that annihilated an invading Mongol fleet in the 13th Century, this weird organization was expected to sweep the US Fleet from the seas.

Macabre, effective and supremely practical under the circumstances, the Kamikaze suicide tactic almost succeeded. Its campaign of death ...the Philippines, but increased in fury at Iwo Jima and culminated at Okinawa in the fiercest sea fighting of the war. Called "the most intense and famous of military history" by Wi... Ch...

...chained to their seats.

"You can't stop them with machine gun fire — their planes are armor plated."

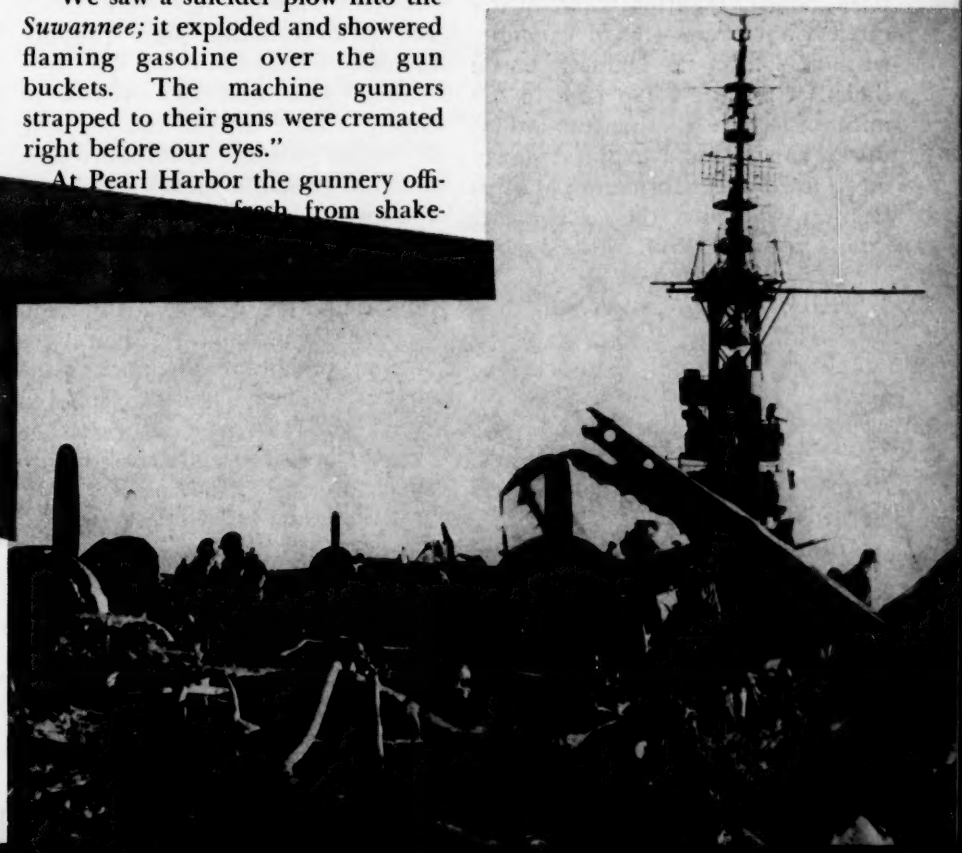
"We saw a suicider plow into the *Suwannee;* it exploded and showered flaming gasoline over the gun buckets. The machine gunners strapped to their guns were cremated right before our eyes."

At Pearl Harbor the gunnery offi... ...fresh from shake-

...took some of his gunners to visit the cruiser *Columbia,* a veteran who had limped back to the Hawaiian shipyards for interna...

...about a month."

The curious visitors got sick and



By C...

". . . the spirit which throws away life for certain death"

vomited over the side.

At first the American sailor regarded suicide planes with a combination of awe and fear, but he stuck to his guns. Many ships' guns were still firing even after a Kamikaze had crashed and exploded. As the suicide campaign increased in tempo, fear turned to hatred. The Pacific War changed in 1945; it became a back alley struggle — a street fight in which no quarter was asked or given. Death stalked our ships and turned beardless recruits into vengeful killers overnight.

The gunners aboard the *Yorktown,* famed "Fighting Lady" of the carrier fleet, were a good example. In the height of the Okinawa battle their AA fire hit a Jap Zero in the midst of its dive, causing it to fall off into a flat spin and to spiral slowly down towards the formation of ships below. Suddenly the celebrating sailors saw a patch of white against the side of the crippled plane.

"Hell," a shout arose, "the bastard's bailing out."

The sight of their hated enemy floating down to safety was too much for even the well-trained and battle-proven men of the *Yorktown.* Without orders, they instinctively opened fire.

The seriousness of the Kamikaze threat was kept a close military secret. After Lingayen Gulf, Commodore Bates explained, "We couldn't allow the Japs to think for one minute that their suicide attacks had killed so many men and damaged so many ships. We had to stay and take it. Every ship fought until she was no longer maneuverable — we couldn't let the Japs know."

The Lingayen invasion almost bogged down. Admiral Oldendorf considered cancelling operations and sent an urgent appeal for help to Adm Kinkaid, "Should suicide bombers attack transports, results might be disastrous." Kinkaid turned to Halsey for help, and the "Bull," whose plans were always flexible, called off scheduled carrier strikes on Formosa and rendered timely aid which saved the landings.

Later, when things were touch and go at Okinawa, Adm Spruance radioed to Nimitz:

"The skill and effectiveness of enemy suicide attacks and the rate of loss and damage to ships are such that all available means should be employed to prevent further attacks."

The brains behind the Kamikaze campaign were well aware of both the effectiveness and the limitations of their human bombs. Though the hopeful Japanese public believed that every pilot who made the supreme sacrifice actually crashed into an enemy vessel, staff officers knew better. Captain Fuchida, leader of the Pearl Harbor attack planes and later Air Staff Officer of the Combined Fleet, estimated that 1 in 6 hit their target. Captain Inoguchi, Chief of Staff for the First Air Fleet, told interrogators that he believed that the figure was 1 in 6 at the Philippines, and only about 1 in 10 at Okinawa. The Commanding General of the Sixth Air Army, LtGen Sugarawa, agreed with these estimates, but he felt that his pilots would have had a higher ratio of success if the US had tried to invade Japan proper. There would have been more radar interference over the mountainous land areas and the pilots would have had to fly less distance to reach enemy fleet units. About the best estimate that we have is that of the Strategic Bombing Survey Team; they found that 1,900 suicide planes sank 26 ships and damaged 164 at Okinawa—exactly 10 planes (and 10 pilots) for each ship.

Not all of the Kamikazes exploded when they crashed. Some piled up in trash heaps; some caromed off or slithered over the side in a jumble of wreckage. Ocassionally there would be a grisly fantasy which left a plane jutting from a ship's funnel, or sitting on top of the deckhouse like a monstrous bird. Several crashes were climaxed with a headless pilot catapulting from his plane in ceremonial hari-kari robes.

According to Adm Toyoda, the decision to start the Kamikaze campaign was made on the spur of the moment by the commanders of the First and Second Air fleets, Adm Onishi and Adm Fukudome. Upon learning of the almost suicidal mission of Adm Kurita's fleet at the Philippines, they decided that, "If the surface units are taking such desperate measures, we must do likewise." Actually the plan had been under consideration for some time. Former Operations Officer of the First Air Army LtCol Naomichi Jin told interrogators that a joint Army-Navy bombing test had been carried out against target ships in Manila Bay as early as September 1944. The test showed that with well-trained personnel the best result to expect from orthodox bombing was 1 hit in 4 attempts. Though no actual test was attempted, they thought each crash would be on the target.

In a paper that he read to the Strategic Bombing Survey Team in the fall of '45, Capt Inoguchi said that Adm Arima, commander of the 26th Air Squadron, himself dove into an aircraft carrier on October

15th. By so doing "he lit the fuze of the ardent wishes of his men." Less than a week later Adm Onishi formed the Special Attack Corps.

Lieutenant Colonel Jin struck one of the keynotes of the success of suicide attacks. "They are," he said, "more effective than the orthodox air attack because the impact of the plane is added to the bomb, besides which the exploding gasoline caused fires. Further, the achievement of the proper angle effected greater speed and accuracy."

Captured documents from Negros Island gave American commanders their first insight on the Japanese suicide tactics. The Japanese soon noticed that there was a lull of about 2 hours between successive air strikes by carrier planes and warned their pilots that "It is essential that flying suits and other equipment be always held in instant readiness with the intention of taking off immediately after the air raid terminates." The document recommended departing from the highest altitude possible until the enemy was in sight and then to glide down "taking advantage of the clouds, sun and local weather conditions."

The training manual of the Inspector General, Japanese Army Air Force, contained carefully prepared rules for the departure, advance and attack. It even had detailed instructions on how the escort planes would confirm successes. Classified "Very Secret" (Gokuhi), the manual began with the usual exhortations for high morale. Praising "the spirit which throws away life for certain death," it concluded that "the basis for victory in this kind of attack will depend absolutely on the spiritual strength of our flying personnel." Curiously, it laid down rules of conduct and personal hygeine in order that the pilots would be in the best mental and physical condition for their supreme moment. "They must leave nothing to be desired; a pilot when maintaining his plane should consider it as almost a part of his body."

In directing how to press home the attack, the manual urged "diving down on the enemy at full speed, following him like a whirlwind, countering every move he makes." It stressed the importance of maintaining sufficient colliding power and suggested that the best points of aim for carriers were the elevators on the flight deck. For other types, pilots were told to try for the deck amidships, "if possible, between the stack and bridge."

The height of carefulness was reached in the instructions for the actual collision. "Just before the collision, the elevator must be sufficiently pressed forward to allow for the increase in speed. It is essential at this time not to miss the target because of shutting one's eyes for a moment."

Concluding with a warning that the attack run would be met with conditions that would be "extraordinarily difficult and violent" (and our gunners saw to it), the manual encouraged each pilot "to burn with the desire to sink his target by bravely and calmly making the attack which means certain death."

From the action report of the destroyer *Kimberly* we can get a good idea of how well the Japs followed instructions. In describing how one Kamikaze pilot got through a maze of AA fire to crash his ship, the skipper reported,

"During this phase of the approach, the fire control problem was one of extremely high deflection rate which the Japanese pilot further complicated by resorting to radical maneuvers including zooming, climbing, slipping, skidding, accelerating, decelerating and even slow-rolling."

Weapons of the future may improve, but no guidance system is likely to surpass a living pilot.

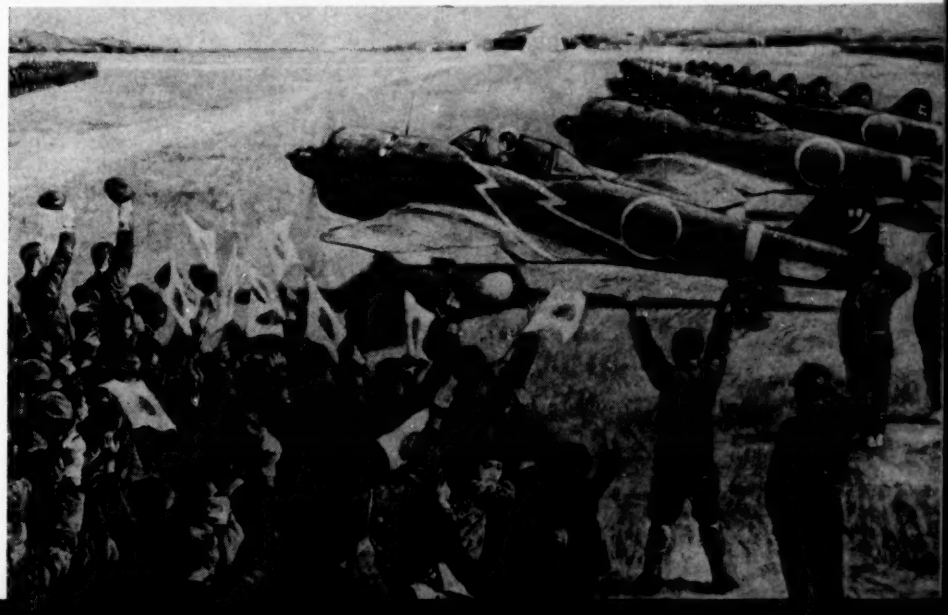
The American naval commanders weren't ones to let grass grow under their feet. As soon as it became apparent that they were up against a new threat, they tried new maneuvers to counter it. Naval war records are filled with the suggestions that flowed in. In January, Commander, Third Fleet stated, "The newest Japanese weapon, the suicide bomber, can be licked; we need increased alertness, better gunnery, strike pickets and a smothering blanket of our own fighters over the enemy air fields." Other suggestions included high speed evasive maneuvers, a system of central control for all the AA batteries of the task group and more combat air patrol above the surface ships. One commanding officer recommended a "manually operated rocket gun of the bazooka type," or "a cluster of rocket projectiles."

To a man, naval officers considered that the best defense against Kamikazes were our own aircraft. If our carrier planes had not met the horde of 400 suiciders that sped down the Ryukyu Island chain on 6 April, the invasion fleet at Okinawa would have been blasted from the sea. Many young pilots became aces that day by exploding sitting ducks out of the sky. They "splashed" 291 and ship's gunnery accounted for 90 more. One division of 4 fighters from the *Yorktown* got a total of 50 sure kills without receiving a bullet in any of their planes.

In the event that the suiciders broke through the protective blanket of fighters, the best defense, according to one commander, was "Providence, Speed and Gunnery."

After the experience gained in the

***Sons of the Divine Wind* — ". . . the plane . . . a part of the body"**



Logistical equation — a plane for a ship

Philippines, the Third Fleet Commander noted that the after effects of a suicide crash were often more devastating than the initial impact. "In addition to the effects of the bomb," he said, "the incendiary blast of the gasoline load is often devastating. Personnel casualties from burns are high—so is damage to the ship's structure. When a carrier is hit, the gasoline, ammunition and planes on deck or in the hangar add enormously to the resultant destruction. The final effect is seldom the complete loss of the ship, but the extensive damage imposes a heavy load on the advanced repair facilities, which results in a serious reduction in the offensive effort."

An outstanding example of this analysis was that of the grand old lady of the carrier fleet, the *Saratoga*. On 21 February during the invasion of Iwo Jima, the *Sara* and her 3 screening destroyers made radar contact on a group of "bogies" 75 miles away, closing fast. *Sara* catapulted as many fighters as she could and went to battle stations. In the wave of attacks she was hit early. Four Kamikazes — all of them burning from AA fire — crashed into her staunch sides within the first few minutes. While the "Divine Wind" boys were doing their dirty work, 2 planes made orthodox attacks and scored a bomb and a torpedo hit. An hour later when *Sara* had all fires under control, the next wave came in. She shot down 2 out of the 3 attacking planes, but the third dropped a bomb on the flight deck and crashed over the side.

As a result of 4 suicide crashes, 2 bomb hits, a torpedo hit and numerous fires, *Sara* lost 49 aircraft, 93 dead, 61 missing and 196 wounded. She was so seriously damaged that she ultimately returned to the West Coast for repairs.

On the same day, however, the *Bismark Sea* wasn't so lucky. At sunset, just 20 miles east of Iwo, she splashed one Zero as it bore in during the half light, but another seemed indestructible. Under fire from the time it was first seen, it was burning from repeated hits and still it came in. The frantic gunners fired until the plane was so low on the water that their guns wouldn't depress low enough to fire at it. The plane struck abeam of the after elevator, scattering 4 torpedoes around the deck and causing serious damage. Just as the fire fighters appeared to have the flames under control, another suicider crashed through the flight deck, killing most of the fire party. The entire rear area of the hangar deck was blown out and the ship's machine gun ammunition began to explode. All hands on the fantail were blown over the side and the after part of the ship became an inferno.

At 1900 when it was apparent that the ship couldn't be saved, the skipper ordered "Abandon ship." Later a third and very large explosion rocked the ship and blew the after structure apart. Time 2115. *Bismark Sea* rolled over and sank. Taps for 347 of her crew.

We learned a good lesson from the British, incidentally. When their carriers joined our forces at Okinawa their more heavily armored flight decks were superior in withstanding the diving suicide attack. The *Indefatigable, Formidable, Indomitable* and *Victorious* all took hits and remained operational. Heavy armor helped on the battleships, too. When one struck the *Missouri,* Adm Halsey's flagship, he ordered the Boatswain to pass the traditional Navy call for sweepers. "Sweepers, man your brooms. Clean sweep down, fore and aft." Thus did the "Bull" speak his contempt for the "Divine Wind."

At Okinawa the Kamikaze campaign reached the height of its fury. This, the Japanese boasted, was the chance that they had been waiting for — with the entire fleet within range of the Special Attack Corps, they would wipe the US naval power from the Pacific Seas. Kamikaze pilots would trade a plane for a ship, smash the Navy and then annihilate the invading troops at their leisure. Here the "Divine Wind" blew its hardest, and the greatest suicide campaign of the war waxed, waned and collapsed.

US victory at Okinawa demanded complete control of the sea and air,

otherwise the troops would have met disaster. The fleet had to stay and render support, no matter how tough the going was. In so doing, our sailors wrote one of the most glowing pages in naval history. The lion's share of the glory fell to the smaller craft, for they bore the brunt of the maniacal suiciders and fought off unending air attacks on a scale never experienced or thought possible.

One of the defensive tactics developed by carrier task groups in their many strikes across the Pacific was to establish a radar picket between the main body of ships and the nearest enemy airfields. This lot fell to the destroyers, the fast, thin-skinned "Small Boys." As the war progressed the radar picket became more than an early warning radar station and divisions of fighters were assigned to a Fighter Director Team that operated from the picket's Combat Information Center. Thus it was possible to intercept and destroy enemy aircraft 50 or more miles away from the main task groups.

Picket duty at Okinawa became the most hazardous assignment of the war and produced some of the most ferocious life and death struggles in naval history. Their interceptions were so effective that the Japanese soon realized that they could never smash the invading fleet unless they could destroy the picket line first. As a result suicide pilots began a dive on the first ships that they sighted. As many as 50 planes would attack a single ship and more than one lone destroyer shot down a dozen planes in a single day. Pickets were rotated every 3 days; men slept, if they slept at all, on deck by their guns, drinking an occasional cup of coffee and eating K-rations. The utterly exhausting pace of combat readiness for days on end was almost as hard to bear as the actual attacks.

Men of our Navy met and exceeded the demands of courage at Okinawa. They fought well and they died well. Throughout the grim battle ran a thread of determination, exemplified in a conversation that took place between the crews of 2 destroyers as one relieved the other on the picket line.

"You guys have a fighting chance, but they'll keep coming 'til they get you."

"Yeah," came the reply, "they'll keep coming down 'til they nail us, but we'll get a lot of them, too."

Some of the duels between these brave little picket ships and the Kamikaze hordes can take their place in history along with the famous fights of the *Constitution,* or the *Bon Homme Richard.* Consider the *Evans* and *Hadley,* our 2 champion "giant killers." In a single day they had an amazing total of 46 planes, 23 apiece. The pace was furious; an excerpt from the *Evans'* laconic Action Report packs drama in a crowded 16 minutes:

"Time 0835. Main battery joined *Hadley's* fire and splashed plane 3,000 yards dead ahead. 0839. Shot down Zero on starboard quarter, another two minutes later. Shot down planes at 0845, 0847, 0849, 0850 and 0851. A Kate shot down 200 yards from the ship, launched a torpedo just before it hit the water; hard left rudder at the ship's speed 30 knots caused it to miss 25 yards ahead."

Navy men still shake their heads when they recall the gallant fight of *Laffey.* During an 80 minute action she was attacked by 22 planes. When the last shot was fired she had received 9 plane crashes and 4 conventional bomb hits, but all 22 of the enemy had met their ancestors. No destroyer in WWII absorbed so

The cause . . .

. . . and effect

much punishment and still cheated the executioner.

Our war records are filled with stories of individual heroism at the picket line. One of the most dramatic, however, happened aboard the destroyer *Mannert L. Abele*. She was hit by 2 suiciders—one "conventional" Kamikaze and one suicide (Baka) rocket bomb. The first wiped out the after engineroom, hurling men and machinery upward. The Baka hit the forward engineroom 60 seconds later and the ship sank in 3 minutes. But for Lt George L. Way, the *Abele* would have carried with her a great many of her crew.

Blown over the side by the blast, Way caught a rope and climbed back aboard. He had just 2 minutes left. Rounding up all able hands forward, he spent the next 60 seconds setting them to work launching life rafts. One minute to go. He opened the hatch to the plotting room and released men trapped below. Next he jerked frantically at the dogs on the hatch to the forward engineroom, but one of them was jammed. Time was ticking away. His hand fell on a dog wrench; pounding frantically he managed to break off the dog and pry the hatch open. The main deck was awash and water lapped at the combing of the hatch as 10 men rushed out from their dark prison. Time was up and the *Abele* started her downward plunge. Time was up, but 3 minutes had been enough for George Way.

Okinawa was a great proving ground and answered the question, "Can a fleet stand up against a strong land-based air force?" In order to support the land forces, Task Force 58, the famed fast carrier task force, operated for 84 days in an area 100 miles square, slipping out occasionally to transfer more bombs and gasoline from the supply train. The carriers not only proved their ability to fight off land-based air, but they also did it under the most adverse conditions—they sacrificed their greatest asset, mobility. In the middle of the campaign Adm "Jocko" Clark, the Oklahoma Indian, jokingly sent the following dispatch to Adm Mitscher:

"What the hell are we doing out here anyway?" "Pete" Mitscher replied:

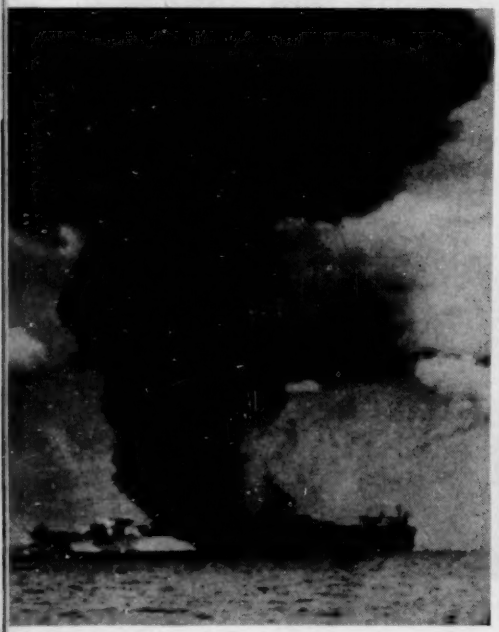
"We're a high-speed, stationary training target for the Japanese Air Force."

It was a bloody victory, the Navy's most costly one since Guadalcanal. According to naval historian Walter Karig, the US Navy lost 4,907 dead, 790 aircraft and 36 ships sunk, (many more damaged). The Japanese lost 12,000 airmen dead and 7,830 planes.

Bloody as Okinawa was, there was another conflict in the making which might have been worse. Carefully hoarded away on airstrips scattered all over the main islands of Japan wer 5,000 more suicide planes. These planes and 10 Army divisions were committed for the expected invasion of the Japanese homeland. The Japanese defense plan was code-named *Ketsu*—which means "Decisive." It centered around a final supreme effort of the "Divine Wind" and the ability of the troops and civilian populace to massacre any American forces that landed. All civilians in the Kyushu-Shikoku area were given instructions in "sure-to-kill" swordsmanship tactics. The entire nation was dedicated to the slogan "One hundred million people die in honor." In a way, the fateful bomb over Hiroshima was a weapon of peace. The world can be eternally grateful that the war ended without putting the invasion of the homeland to a test. Based on our previous experiences with the scorching blasts of the "Divine Wind," we may have won, but the beaches would have run red with American blood.

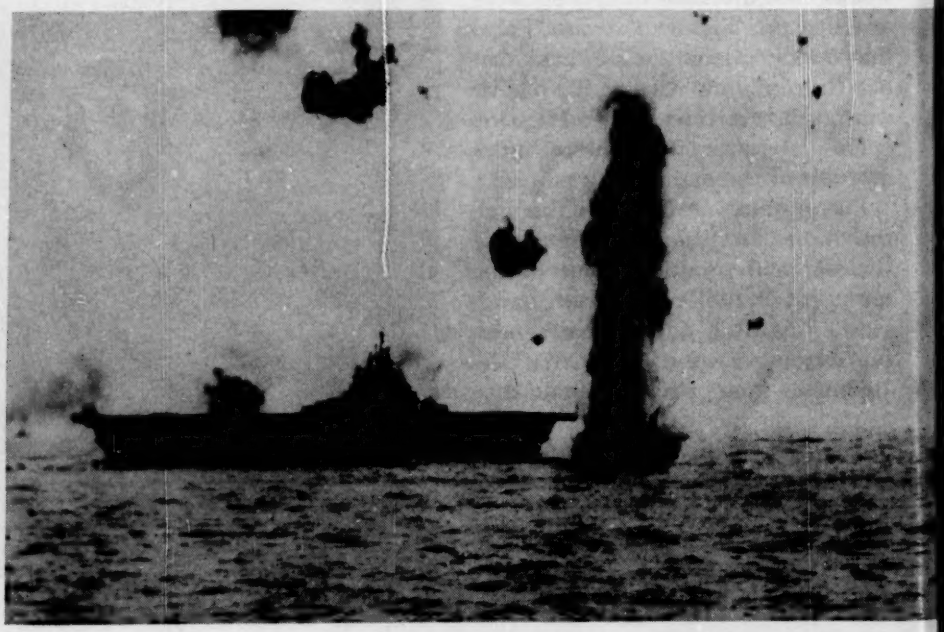
Admirals Ohishi, Arima and countless brother Japanese pilots have joined their ancestors. Perhaps they feel the same as did Capt Inoguchi, who concluded his paper to the American interrogators with, "It is to be regretted that the number of bombers we had were insufficent and cruising radius of planes inadequate." Who knows what course history might have taken if their deadly "Divine Wind" had succeeded in saving Japan a second time? USMC

Japanese lost 7,830 planes . . .



. . . but it was our Navy's most costly victory since Guadalcanal

Wide World Photos



a touch of tradition

THE NATIONAL ANTHEM

Text and illustration
by
Maj John H. Magruder, III

ALTHOUGH ALL GOOD CITIZENS OF the United States now automatically stand at attention for the "Star Spangled Banner," it is surprising how relatively recent this custom is.

Up until 1893 every one, bandsmen and public alike continued to remain seated during the playing of what were then called "national airs." There was no official anthem at this time and band leaders had a choice of several tunes which could be selected for ceremonial occasions. Even on military posts and naval stations there was no standard air. Custom had narrowed selection down to several favorites, chief among them being "Hail Columbia," "Yankee Doodle," "The Star Spangled Banner" and "Dixie." Occasionally, one would be played at Morning Colors or at the opening of a concert and another would be rendered at sunset or as a finale.

Navy regulations of 1893 first prescribed "The Star Spangled Banner" as the sole national air to be played at Colors and it was at the daily Colors ceremonies at the old Marine Barracks, Eighth and Eye Streets, SE in Washington that the rendering of our National Anthem had its beginning.

As the Marine Band went on tour, it took this new custom with it. At first, audiences appeared to be somewhat taken aback when the band stood to play "The Star Spangled Banner." The 7 June 1898 issue of the Omaha *World Herald* attested to this when it related, "Sunday night, when the members of the [Marine Band] arose to render the closing number, the audience did not know what was coming. But when the strains of the National Anthem floated out on the breeze, the entire audience arose and remained standing until the anthem was concluded." This journal then accurately predicted, "The time may come when Americans, whether indoors or out, will show their patriotism by standing uncovered when the National Anthem is rendered."

It is evident that a year previously, the public had not yet been inculcated in this habit of standing. Following a concert by the Marine Band in the spring of 1897, the Bangor, Maine *Daily Commercial* thus took the citizenry to task in an editorial: "Then came the finale, "The Star Spangled Banner." The band rose as one man. A few persons in the audience struggled to their feet also, probably having read somewhere that it was the proper thing to do. Then the rest of the audience struggled up from their seats, but apparently with small intent to do honor to the National Anthem. Most of them were looking for their hats and coats and while they evidently had a sort of half respect enough not to make for the door. If Lieutenant Santelmann's back had not been squarely turned, he must have thought Bangor was very, very far from Washington."

It probably took the upsurge of national feeling induced by the Spanish-American War to bring the public automatically to its feet during the playing of the "Star Spangled Banner." Whatever the cause, the Nation was to follow the lead of its Marines in rendering primary honors to this one tune on all formal occasions.

In 1916 President Wilson made the "Star Spangled Banner" the official anthem for ceremonies of state and ordered that *all* branches of the armed forces stand at attention for this anthem. Strangely enough, however, it was not until 3 March 1931, the day before he left office, that President Hoover signed Public Law Number 823, passed by the 71st Congress and designating "The Star Spangled Banner" as the legally recognized National Anthem.

While it took the United States 142 years to obtain officially a National Anthem, the public was already in the habit of accepting but one air as "official" and was well-accustomed to rendering it proper honors. No one can gainsay the part that the Marine Corps played in establishing this important ceremony. The rest of the nation followed the step of the Corps and the proud traditions to which this body has for so long adhered. USMC

LET'S U

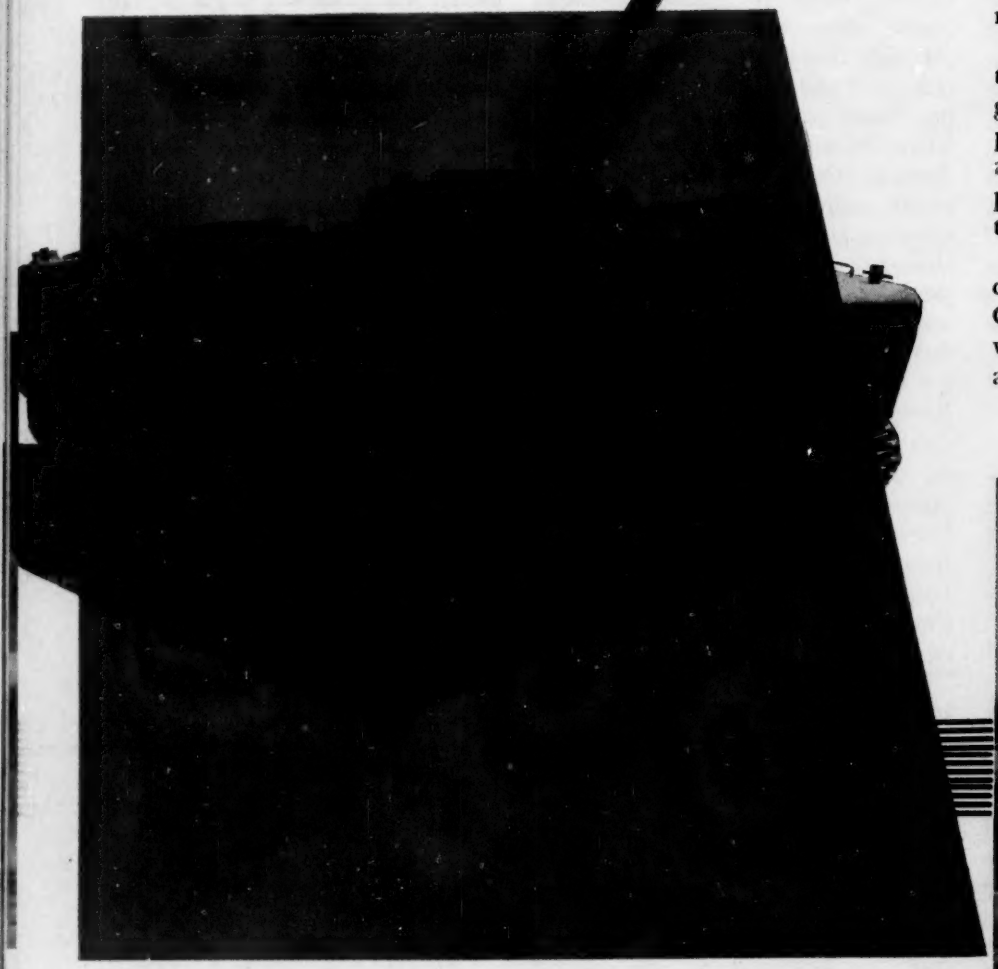
By Capt R. H. Piehl

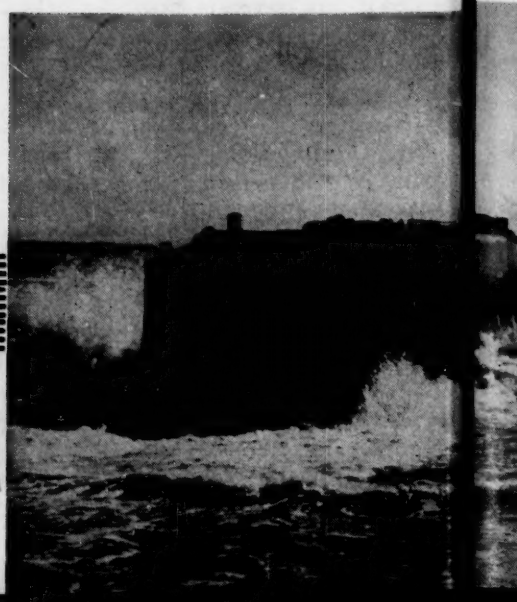
LET'S MAKE THE MOST OF OUR armor!

As a Marine, your first reaction to this statement might very well be, "Just what do you mean by the term — our armor? Sure, we have tanks, but they're intended primarily to support our infantry. Let's leave armor and armored operations to the Army. Our primary responsibility is amphibious operations and armor, as such, plays a relatively minor role."

Do not limit the term "armor" to tanks alone; included in that category are our LVTs and armored amphibians. Their armor isn't as heavy as that of tanks, to be sure, but for purposes of tactical employment, they fall into the same classification.

During WWII we were very successful in the employment of LVTs. Our tanks and amphibian vehicles were, in many cases, used skillfully and at times even brilliantly. But





By adapting the Army's combat command concept to the amphibious Marine Division ...

S USE ARMOR

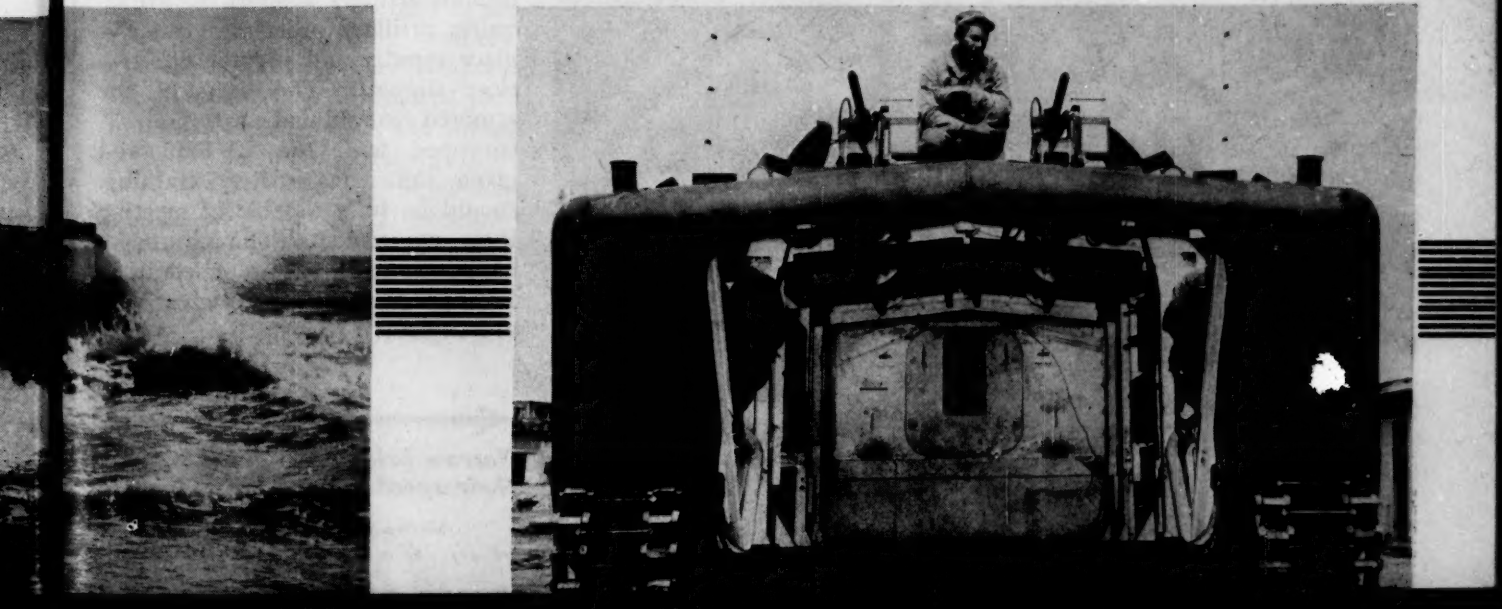
there were also times when we could have realized more of the effectiveness of these weapons had we used more imagination and initiative. And now that new tanks and amphibian vehicles are being developed, we must be quick to recognize their potentialities and develop tactics and uses to exploit them to the utmost.

Before we go further, let us consider some of the more important characteristics of these weapons. One of the primary features of the M48 medium tank is its tremendous firepower. Its main armament is an improved version of the 90-mm gun, with power elevation and traverse and a highly refined fire control system, and suffice it to say that they are capable of knocking out any medium tank in the world today.

Another feature is its increased mobility. Although this tank weighs in the neighborhood of 48 tons, its wider track and improved suspension system make it capable of traversing terrain which formerly was considered impossible for tanks to negotiate.

The thickness of the armor has been materially improved by increasing the slope of the armor from the vertical, so that shells hitting it tend to ricochet or must pass through a greater amount of horizontal armor to achieve penetration. The tank is still highly vulnerable to large caliber antitank guns, napalm and large aircraft bombs, and its suspension system is susceptible to damage by antitank mines and direct hits by heavy mortars or artillery.

Nearly all Marines are familiar with the LVT3C. In general, it is an amphibian vehicle designed for the purpose of transporting troops and supplies from ship to shore in amphibious landings. The characteristic which made the LVT so useful in the war against Japan is its ability to negotiate certain offshore and underwater obstacles, such as coral reefs. For that reason it is hailed by many as one of the most significant developments to come out of WWII. A new amphibian vehicle, the LVTP5, shows likelihood of even greater performance. Much larger (about 40 tons), it will carry many more troops or a correspondingly larger amount of cargo. Two undesirable features of the earlier LVTs have been remedied on this vehicle. The fuel capacity has been greatly increased, thereby minimizing the danger of running out of fuel between ship and shore, as occasionally occurred during WWII operations. The new LVT has inverted grousers on the inside of the track, so that it will not play havoc with roads to the extent that the LVT3C does. Increased power and driving



ease are provided by a much larger engine and a cross-drive transmission.

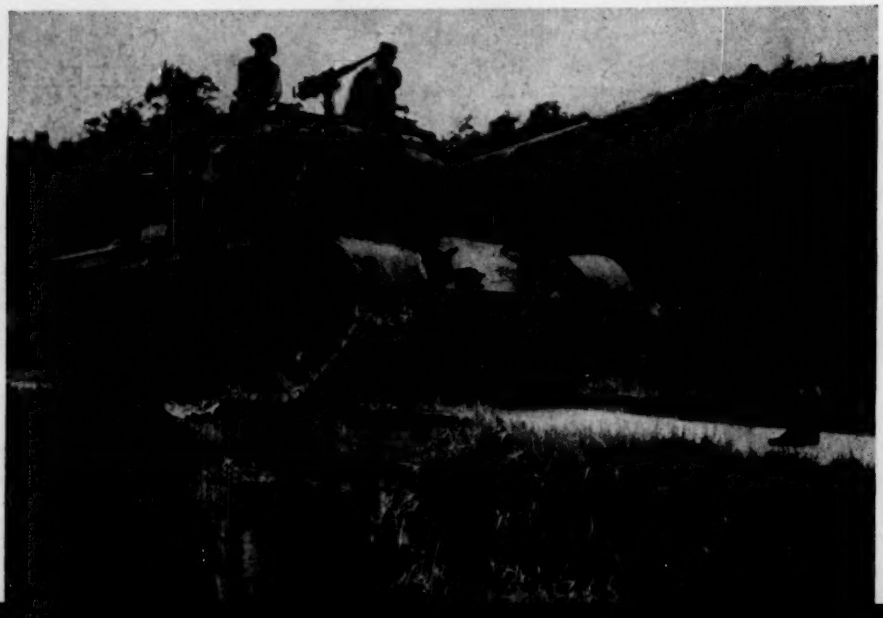
Likewise, the LVTH6, which is basically an LVTP5 with a turret-mounted 105-mm howitzer, is a far cry from the LVTA5 with which so many of us are familiar. Although the vehicle has not yet been completely evaluated, it is possible that we have found an amphibious weapon which may be utilized as a first-rate, self-propelled artillery piece. It can carry a sizeable amount of ammunition and has a fully-covered turret.

Both the LVTP5 and the LVTH6 have more armor than their predecessors, providing a high degree of protection from small arms, mortar and artillery fire, although not nearly to the extent that the tank is protected. Antitank mines, of course, still present the threat of damaging the suspension system.

We have mentioned how successfully we have employed these vehicles in the past. But let's penetrate the rosy atmosphere of past exploits and do a little honest self-examination. How many times have we seen tanks lumbering slowly along a road in desultory fashion, proceeding to the front lines, where they fire a few sporadic shots at some point of resistance which may have temporarily held up the infantry and then retire to a location where they are doing no visible good, to wait until they are called upon again? How many times have we used tanks in their least effective role of delivering overwatching fire in an infantry assault, while the infantry are being pounded mercilessly by enemy mortars and artillery, when the terrain to the objective was perfectly negotiable for tanks and where they could have exploited to great advantage their mobility and tremendous shock action? How often have tanks been employed singly instead of as units, or used in such a manner that they could not be mutually supporting? How often have tanks been permitted to sit idly in rear areas because someone thought that they should be "saved" — or that they couldn't be employed profitably — or that they were more necessary in the rear to protect the CP — when a real need existed for them in the front lines?

As for LVTs, one of the impressions that the American public has gotten of Marines in general is the picture of an LVT hitting the beach, dropping the ramp and disgorging several dozen hard-charging Marine infantrymen amidst a veritable hail of small arms fire. The fact is lost on them that, in many cases, the LVTs could easily have proceeded a sizeable distance inland and discharged their passengers at a point where things were not quite as hot as at the water line.

The primary mission of the LVTAs originally was to provide a large volume of fire on the beach at the moment naval gunfire was forced to lift, and to give direct fire support to the infantry until the artillery and tanks could get ashore to relieve them. In this role they were generally effective, but in later stages of the operation, although plans called for their employment as artillery, they were seldom used extensively in this capacity.



Narrow bridges tie down their speed and mobility

A study of Marine tank tactics during WWII and in Korea would reveal that in nearly every battle in which tanks were involved, the speed of the tanks was limited to that of the foot troops. This is a waste of one of the most important characteristics of the tank, its mobility.

Why develop a tank with a speed of up to 30 miles an hour if we intend to use it only as an infantry-accompanying weapon? Why tie down its mobility by using troops or wheeled vehicles unable to keep up with it? And yet the tank alone on the battlefield, without the protection of supporting infantry, is highly vulnerable to tank-hunters and tank-killing weapons. The answer lies in increasing the speed of our infantry by making it mechanized. Specifically, let's mount the foot soldier in the LVT and use it as an armored personnel carrier.

Obviously, it would be impracticable to mount an entire Marine division in amphibian vehicles for an operation. But in an average amphibious operation, a Marine division would have its own organic tank battalion, probably a battalion of LVTs, and up to a battalion of armored amphibians. It would be feasible, in many situations, to organize a mechanized force consisting of units of the tank battalion, or the entire tank battalion, as the striking element of such a force, with LVTs acting as armored personnel carriers to carry infantry.

Engineers should be attached or in support to clear mine fields and obstacles, build bridges and repair roads. If this force is to have great mobility, it must be furnished continuous artillery support, which requires artillery units that can displace rapidly and provide effective close support. The units of the armored amphibian battalion, if equipped with the LVTH6 and given sufficient artillery training, should be fully capable of meeting these requirements. The advantages of amphibious, self-propelled artillery over present-type towed artillery are obvious:

(1) Better mobility. The LVTH6 is not restricted to roads, and it will also eliminate the river as an obstacle.

(2) Better protection. Even when well dug-in, present artillery crews in position are highly vulnerable to air bursts. Since the LVTH6 is completely armored, vulnerability of the crew is materially reduced. Also, towed artillery units are most vulnerable when displacing. The LVTH6, however, is a potent direct fire weapon even on the move. And what's more, it can move more rapidly. Finally, LVTH6s provide a substantial amount of organic protection against low-flying aircraft or infiltrating enemy troops.

(3) More flexible communications. In event of emergency, rapid employment of weapons on the move is facilitated because each LVTH6 has its own radio.

Now that we have considered the organization of a mechanized force composed of units within or attached to our Marine division, how can we employ this unit in such a manner as to take maximum advantage of armored firepower, armor, mobility and shock action?

Since the Marine division is essentially an amphibious unit, let us consider first how the effective employment of a mechanized force can be of value in an amphibious landing. In our beachheads of the future, we must avoid the huge concentrations of troops and supplies in restricted beach areas because they present worthwhile targets for atomic weapons. Dispersal of troops and supplies must be achieved by making rapid advances inland. Ordinary infantry presently lacks the punch and mobility necessary to accomplish this. By using armored amphibians as direct fire weapons initially and LVTs as armored personnel carriers, however, the infantry would be provided enough firepower, mobility and individual protection to make substantial advances. Once initial objectives well inland have been seized, the mechanized unit could be reinforced with helicopter-borne infantry, whose primary mission would be to establish a perimeter and hold it against all counterattacks. Succeeding waves of troops should rapidly mop up bypassed enemy resistance in order that remaining elements may land without being exposed to severe frontal or flanking fire on the beach.

In order to provide a greater punch for the assault force, tanks must be landed as quickly as possible. At Tarawa and at Saipan, particularly, we were largely unsuccessful in getting tanks ashore in appreciable numbers in the early stages of the operations, because tank-carrying landing craft could not cross the reefs and land tanks directly on the beach. Tanks attempting to wade ashore frequently drowned in deep water and holes caused by shelling. To overcome this problem, improved flotation devices for tanks are a vital necessity. One tank landed on a beach at the crucial moment may be worth a dozen landing craft in terms of successful accomplishment of the overall mission.

Once the beachhead has been seized, the land phase of the operation begins. At this point in past operations LVTs were used to carry supplies ashore and evacuate casualties from the beach. Both these functions are vital, but there should be sufficient LVTs available to permit some of them to continue in their role of armored personnel carriers. Assuming that the enemy's defenses have stiffened and the infantry is finding it difficult to carve out substantial gains, perhaps the mechanized force can again be used to advantage. Although current military thought favors having the infantry make an initial penetration and then having the armor exploit the penetration, it is felt that the infantry lacks the punch to make a serious penetration against strong resistance without a great sacrifice in men. On the other hand, there are very few defensive positions that can hold firm in the face of a determined onslaught by a hard-hitting armored force. The armor should be assigned a definite objective well inside enemy territory and should attack in deeply echeloned formation on a narrow sector. The tanks should lead, followed closely by infantry in armored personnel carriers (LVTs), supported by other tanks, armored amphibians, artillery and air. Minor resistance should be bypassed in order to avoid full deployment and protracted local combat. Upon reaching the assault position, the tanks should halt in hull-defilade positions, if possible, and support the infantry in their assault with every weapon which can be brought to bear. The infantry should dismount and attack on foot with rifle, grenade and bayonet. Blind rushing of a fortified position by tanks or LVTs should be avoided because of the ever present danger of antitank mines. Upon capture of the position, reinforcing infantry could be brought up by helicopter. The penetration should then be exploited by other infantry units.

What are the advantages of carrying the infantry in LVTs from the assembly area to the assault position? First, if the enemy attempts to repel the advance with heavy mortar and artillery fire, infantry on foot would take a pounding, while those in the

Get it off the beach and move it to the point of action

personnel carriers would be comparatively safe. In the case of direct hits on LVTs, there would be casualties, of course, but casualties would occur in any event, and probably in greater numbers, if the infantry were on foot.

Secondly, the troops would be fresher when they arrive at the assault position. Physically and mentally they would be better equipped for the decisive final assault than their foot soldier counterparts who, at this stage of the game, are usually able to continue because of guts alone.

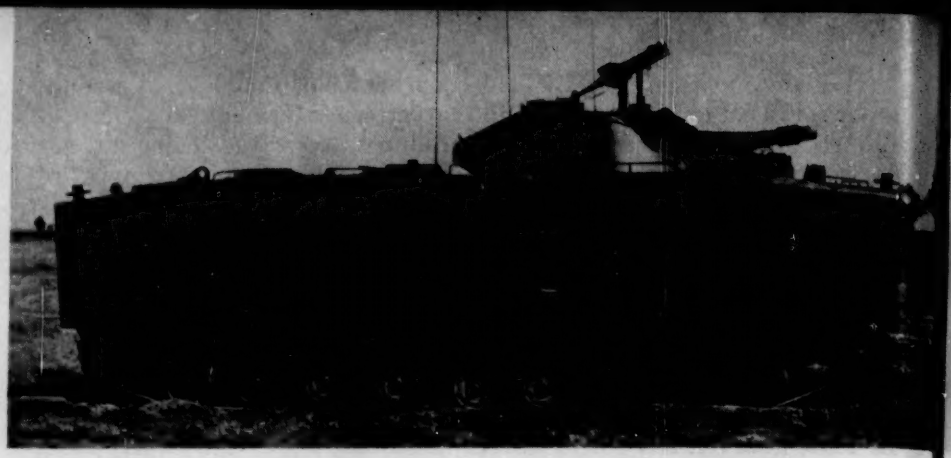
Thirdly, the troops will get to the assault position more quickly, allowing the enemy less time to bring up reinforcements or take effective countermeasures.

Another potential use of this mechanized force is in conjunction with the employment of atomic weapons. Assuming that an atomic weapon is to be used against an enemy position or installation, it would be highly desirable to send some type of ground force in to the target area shortly after the explosion to take full advantage of the enemy's confusion, loss of control and general demoralization. If ordinary infantry were used for this mission, initially they would have to be at a comparatively great distance from the target for safety. The time consumed in traversing this distance on foot, or with wheeled vehicles over damaged roads, would be so great that the enemy might be able to recover somewhat from his paralysis and put up an effective resistance. A mechanized force as previously described, however, could be closer to the target initially, by virtue of its armored protection, and could negotiate the distance to the target much more rapidly. Thus, the mechanized force could be on the scene when the enemy is still reeling and could engage in the most profitable mission of all for armor, the exploitation.

Other uses for this mechanized force which come to mind are, briefly, as follows:

(1) Counterattack. If properly planned and executed, a counterattack made by such a mechanized force should prove very effective.

(2) Defense against atomic attack. The tank is the least vulnerable of all ground weapons to atomic attack, and the LVT and armored amphibian provide a substantial amount of protection. In the event of atomic attack, dispersal of forces is essential and is more easily achieved in armored units than in others because they possess excellent communications which facilitate control over scattered elements.



Replace the conventional artillery with armored amphibians

(3) Mobile defense. If an aggressor force were to strike in Europe and NATO forces were able to prevent them from completely overrunning the continent, our forces would be required to defend a considerable stretch of real estate. It would be physically impossible to occupy most of the ground, as in the sustained defense. Armored units, however, could be employed effectively in the mobile defense, the concept of lightly holding certain critical terrain features and employing a strong, armor-heavy, mobile reserve to counter enemy attacks.

(4) River crossings. By using LVTs and armored amphibians, assault river crossings could achieve tactical surprise because they could be made at virtually any point instead of at bridges or good fording sites. Tanks will be able to cross narrow streams in the near future with the aid of a new technological development, a 60-foot tank bridge which is transported and emplaced by a tank.

(5) Desert operations. The terrain usually found in deserts is far more suitable for armored operations than any other type because trafficability is good and there is room for almost unlimited maneuver. One limitation of LVTs in this respect, however, is the fact that their engines are water-cooled, whereas tanks, with their air-cooled engines, do not have this problem.

There will be times when it is not feasible to employ tanks in their primary mission. In consonance with the policy of making the best use of tanks at all times, tanks could be useful as armored, mobile OPs for commanders, naval gunfire spotters, artillery forward observers and forward air controllers, or they could be used to mount loudspeakers for propaganda purposes or searchlights for night operations.

Serious thought should be given to putting the LVT, too, to other uses than those of water taxi and armored personnel carrier. Some of its potentially feasible uses are as follows:

(1) Weapons carrier. By mounting suitable automatic antiaircraft weapons on LVTs, they could be very effective against low-flying aircraft, as well as in furnishing direct fire support to infantry in the assault. Along the same lines, it may be practical to use LVTs for transporting rockets and the multiple rocket launchers of the rocket battery.

(2) Fire direction centers. Let's use LVTs for this purpose. Their obvious advantages over tents are greater mobility, better protection.

(3) Mobile aid stations. Medical personnel patching up punctured epidermis at aid stations find that enemy fire and adverse weather conditions make their job more difficult. The LVT could alleviate these difficulties and could provide a source of electrical power for lights and medical equipment, such as sterilizers.

(4) Warming shelters in cold weather operations. The LVTs advantages over the present warming

tent are readily apparent.

(5) Operations in snow and over tundra. The LVT has been found to be one of the most mobile pieces of equipment in existence for operations of this sort.

(6) Wirelaying over fireswept areas.

What are some of the problems that we may expect to encounter if we attempt to use our armor as suggested in the preceding paragraphs? Most Marines will agree that tracked vehicles have been generally unreliable in many past operations. It seems that tanks and amphibious vehicles have a knack for getting bogged down or for throwing tracks, or otherwise becoming immobilized at the most crucial moments.

How can we solve this problem? Since 90 per cent of the cases in which our armored vehicles are immobilized in combat are the result of mechanical failures or difficulties of the terrain, it is incumbent upon us to devise some method of reducing these periods of ineffectiveness to a minimum. Currently, in armored organizations, a great deal of time is allotted to preventive maintenance, consisting primarily of lubrication, cleaning, changing oil, tightening and adjusting. But very little time is spent in learning field expedients, such as methods of vehicle recovery and making repairs under adverse conditions. Personnel in armored units should be given first-hand experience in recovering vehicles which are overturned, bogged down in swamps, nosed down in antitank ditches, bellied on stumps and stuck in deep snow. They should be thoroughly schooled in the use of the block and tackle and should know what the retriever and tank dozer can do and how to use them. They should know where to apply leverage and how much pull is required to extricate vehicles. This knowledge should become second nature to them, so that they can perform these tasks efficiently, without hesitation, while under heavy fire, at night, or under extreme weather conditions. Such a program of practical vehicle recovery, vigorously pursued, will do much to reduce periods of immobilization of armored vehicles.

The repair problem for armored units has been greatly simplified by making the removal and replacement of major components, such as engines and transmissions (so-called "power packages") a relatively easy matter. And when the "family of engines" program gets into full swing, the number of spare parts required will be sharply curtailed.

What about the increased training required for armored personnel in order for them to perform these additional tasks we've mentioned? Training for armored personnel, as all other military training, has as its eventual aim effective performance in combat and, accordingly, should approximate combat conditions. If tanks, for instance, are not permitted to romp over all sorts of terrain because of the possibility of damaging trees, or tearing up roads, or throwing tracks, then the drivers of those tanks are not going to have a very good idea of the capabilities of their vehicles. Unless the driver gets practical experience in negotiating tank traps, ditches and barricades, in conjunction with tank dozers and engineers, when he runs up against them in combat he's going to regard them as almost insurmountable obstacles. The best way for the driver to learn how to determine the trafficability of the terrain is to let him find out by experience which terrain he can cross and which terrain he will get stuck in. Otherwise, instead of being confident of his vehicle the driver is going to be timid about its employment, and yet armored personnel, perhaps more than any other fighting men, should be imbued with the aggressive spirit.

Training in tank gunnery is generally inadequate because of limited range facilities at most Marine Corps bases. In fact, tank crewmen seldom get a chance to fire the 90-mm gun until they use it in actual combat. Since tank-versus-tank combat usually terminates abruptly after one or two rounds are fired by each tank, the potential dangers of this situation are obvious. It should be considered just as important for armored personnel to fire their vehicular weapons periodically as it is for every Marine to fire the rifle annually for record.

Another question that may arise is that of who should command the mechanized force in the various methods of employment discussed in the preceding paragraphs. In situations where the force is composed of a preponderance of armored vehicles, let's use the tank battalion commander in this capacity instead of as a figurehead who grudgingly doles out tank platoons and companies to infantry regiments. This selection should be ideal because he is a specialist in the use of armor.

Next comes the problem of supply. Inasmuch as it is not intended to employ the mechanized force in sustained, deliberate operations, but rather in sudden, violent actions of limited duration, there will be few additional problems of supply. One important point to bear in mind, however, is that dependence for carrying vital supplies such as fuel and ammunition should be placed on wheeled vehicles, or you limit the effectiveness of your entire force and may find yourself in a serious predicament. In line with the concept of maintaining mobility, essential supplies should be transported in LVTs.

What about the problem of avoiding detection of armored forces by air? The answer to that problem is not readily forthcoming, but local air superiority and training our armored personnel to become proficient in the art of camouflage will help to a considerable extent.

Admittedly, the problems mentioned have not been disposed of and undoubtedly the reader can think of numerous others which are bound to arise. But let's take the attitude that few, if any, problems are insoluble if proper effort is made and sufficient talent devoted to determining their solutions. The time-worn notion that no piece of equipment has a place in the Marine Corps unless it has a bayonet lug attached has no place in our present day thinking. Let's be receptive to new ideas concerning the employment of our armor, analyze their merits and disadvantages and field test them if deemed feasible. If the Marines of past decades had not had open minds, the LVT might never have been born, and the Marine Corps, instead of being a corps of recognized experts in the art of amphibious warfare, might very well be a small paradeground and antidisturbance force. USMC

FAIR WEATHER OR FOUL

"Total war demands total movement, that is movement round-the-clock. Once armies went into winter quarters and cut down their operational year by 6 months. Still, armies go into night quarters and cut down their operational day by 12 hours. When are soldiers going to tumble to it that an army which can fight round-the-clock has a hundred per cent advantage over one which can fight half way round it, because it has twice the operational time at its disposal?"

MajGen J. F. C. Fuller

TACTICAL SURPRISE AND SPEED OF execution are essential attributes of the amphibious operation. An all-weather concept for amphibious operations will improve materially the chances of achieving these desired characteristics.

By tradition and by law, the Marine Corps is charged with the development of those phases of amphibious operations pertaining to the tactics, techniques and equipment employed by landing forces. The Corps has not been negligent in the performance of its assigned duties; many areas of development relating to all-weather amphibious operations have been explored. The MARINE CORPS GAZETTE has published articles including night operations, cold weather operations, battlefield illumination and smoke operations.

All-weather development in the amphibious warfare area has been sporadic. Research and development is devoted to the solution of specific problems, but an overall concept for all-weather amphibious operations has not been promulgated. The purpose of this article is to propose a concept which, if proven feasible and acceptable, may serve as a point of departure in the development of sound doctrine.

In order to limit the scope of this presentation, only those all-weather considerations affecting landing force operations ashore will be discussed; however, it should be borne in mind that all-weather ship to shore movements, air and naval operations involved in amphibious operations are also of great importance.

Military men agree that fighting is a 24-hour-a-day affair. Ground commanders usually feel that their units can fight under almost any condition, any time and any place. It is true that many commands have fought under almost intolerable weather conditions; but most of these operations were forced either by enemy action or by order of the higher command. Seldom were they actions of free choice. Constantly, they were actions of limited scope.

A study of operations conducted by landing forces during the last decade, together with an analysis of doctrine promulgated by tactical manuals, offer convincing evidence that ground forces are not adequately prepared to conduct around-the-clock offensive operations 12 months out of the year.

We know that we have excellent ground units. Although they have proven themselves in action, we continue to limit most of our operations to "bankers' hours." Operations are generally started at dawn and terminated about 1600. When operations are initiated after 1600 and before dawn, they are limited in scope. Ground operations are usually initiated under fair weather conditions. We have pushed ground force operations to the point where we can maintain troops in the field throughout the year. Seldom, if ever, are we required to break contact with the enemy to go into winter quarters, but adverse weather conditions and darkness still limit our offensive capabilities.

Our overall manpower potential must be wisely proportioned between industry, agriculture and the armed forces. The manpower available to the armed forces must be distributed between ground, sea and air elements. The manpower available for assignment to the landing forces will be restricted. Conversely, it appears that the enemy will have almost unlimited forces available.

If the *number* potential of our landing forces is to be restricted, it is mandatory that the *efficiency* potential be developed to the maximum. Consequently, every effort must be made to give our forces the greatest possible capabilities. A major step in this direction is the endowment of landing forces with a 24-hour day operational capability.

To have landing forces with a 24 hour day operational capability we must develop all-weather ground forces. What do we mean by all-weather ground forces? We simply mean units that can fight during hours of darkness or in foul weather. We mean units that can operate in an extreme range of climatic and topographical conditions.

Certainly, there will be a point beyond which the development of all-weather units will not be economically feasible. Climatic and topographical conditions at times may demand the cessation of operations. However, the further the operational capabilities of a unit are expanded, the closer we will be to the approximation of the true all-weather ground unit.

The Marine division should be able to operate offensively in temperate climate and over terrain of average surface trafficability 24-hours a day throughout the year. When faced by an enemy possessing air and fire superiority or dominating terrain, the Marine division should be able to conduct offensive operations at night, in foul weather or under large area smoke screens.

Weather, climate, topography and the solar day are considerations

By LtCol R. E. Collier

directly affecting the development of the all-weather division. An analysis of the foregoing considerations reveals that visibility or degree of illumination, temperature and surface trafficability are factors that require control if the all-weather unit is to be developed. The control of these factors cannot and need not be absolute. However, control must exist within certain practical limits.

There are several means of controlling or countering the effects of the basic factors mentioned above. A partial list includes the following:

SURFACE TRAFFICABILITY
Trafficability Prediction
Equipment Design
Surface Stabilization
Matting

TEMPERATURE
Clothing
Shelter
Equipment Design
Special Fuels and Lubricants

VISIBILITY/ILLUMINATION
Searchlights (White Light)
Infra-red Light (Black Light)
Flares
Smoke
Guidance and Control

Trafficability is defined generally as the ability of a soil to maintain the motion of a military vehicle. As long as the vehicle can move, the soil is considered trafficable. Trafficability depends on the characteristic of both the vehicle and the soil. Since FMF units must cross beaches, the problem of soil trafficability has been of primary interest to the Marine Corps. The Corps has improved the trafficability of its vehicles, developed an ability to predict soil performance for the movement of various types of vehicles, and devised means of traversing difficult terrain by means of matting and soil stabilization. Continued effort in this area is required if we are to develop all-weather landing force units.

Although the major Marine Corps operations in recent years have been conducted in tropical and temperate climates, the Corps has always considered itself available for operations in any climate. The global nature of WWII emphasized the necessity for military operations in arctic and sub-arctic areas; the cold weather training requirement has been recognized and pursued with vigor. Our cold weather training provided at Pickle Meadows is well known to many Marines, as are the annual cold weather fleet exercises. Development of cold weather clothing and equipment has proceeded concurrently with cold weather training, and it is believed that the Marine Corps can operate effectively in an ambient range of temperatures.

Strangely enough the greatest obstacle to all-weather operations is our inability to see at all times. It can be said that sight is the keystone of all-weather ground operations.

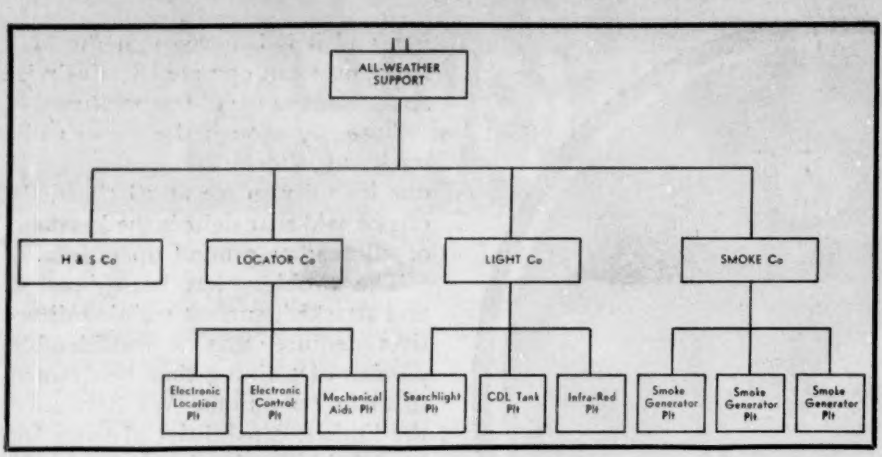
The problem has been isolated and attacked; current training directives require that a considerable portion of training time be devoted to night operations. We have used the limited capabilities of flares for battlefield illumination for years. In Korea we have employed searchlights and infra-red devices with some success. However, when current capabilities are analyzed, we must confess that we are still unable to conduct extensive operations at night or under conditions of reduced visibility resulting from foul weather or smoke.

Since the illumination/visibility aspect of all-weather ground operations is of prime importance, it is essential that it be examined in detail.

To explore the illumination/visibility aspects, let us develop an all-weather division on paper. As a point of departure, we will assume that the individuals and units composing the division are well qualified in night operations as provided by current doctrine; and for convenience, we will develop a type unit embodying the various illumination/visibility aspects common to all-weather operations. This type unit we will term the All-Weather Support Battalion. This unit could be a force or division unit, or its various elements could be incorporated into conventional units.

Keeping in mind that this All-Weather Support Battalion is merely a vehicle for discussion, let us proceed to an analysis of its important component parts. As illustrated in chart p. 56, this organization consists primarily of a H&SCo, Locator Co, Light Co and Smoke Co.

This organization provides the essential elements required for all-weather operations: a means for increasing illumination; a means for decreasing visibility; and guidance and control devices required for limited visibility offensive operations. Deferring for the moment the listing of the Battalion's general



All Weather Support Battalion

capabilities, let us make a detailed analysis for each major component.

Battlefield location and the guidance and control of individuals and units is of major importance in all-weather operations. Without adequate means of location, guidance and control, the tactical utilization of conditions of low illumination and limited visibility cannot be effective. Natural obscuration of the battle area by foul weather conditions or by darkness are barriers to dynamic offensive operations unless suitable guidance and control aids are available. The value of large area smoking in offensive situations is materially reduced unless means are available to control and co-ordinate troop movements.

Location, and the guidance and control of troops, is often difficult under optimum operating conditions; any reduction of visibility magnifies these difficulties. The magnetic compass, gyro-compass, radio beams, direction shells, rocket equipped marking lines and direction tapes have been used in the past to assist attacking troops maintain orientation. The foregoing means, although useful at times, are basically elementary and are inadequate for operations of large scope. Certain of these means may continue to be used by individuals and small units. However, if true all-weather forces are to be realized, it is essential that electronic and mechanical guidance and control devices of suitable accuracy, flexibility and scope be developed.

What are some of the desirable characteristics that should be incorporated into this equipment? Above all, it must give the ground unit greater flexibility and mobility; it must enable the ground unit to conduct a greater variety of operations under an increased scope of conditions. To meet these requirements the equipment must offer simplicity and flexibility of installation, movement and operation. It must be operable over a variety of terrain, and it must be accurate and reliable.

It is felt that 2 basic types of equipment should be developed: electronic and mechanical. Typical items that might be developed are:

Mobile Locator Beacon. A device capable of transmitting an electronic signal that can be converted into a map location.

Mobile Computer. A device capable of receiving signals from the locator beacon and converting them into map locations.

Mobile Control Beacon. A device similar to the locator beacon but used primarily for small unit control. Equipment design would incorporate short range and light weight characteristics.

Mobile Control Computer. A device capable of receiving signals from control beacons and converting them into troop location.

Mechanical Locator. A device capable of giving location based on relative movement over the ground.

Granted that the foregoing items may appear to be futuristic in nature, nevertheless, a radical departure from conventional ground location devices is required if we are to have all-weather units. Half measures in the area of battlefield location, guidance and control will not suffice.

If these devices were to be developed, how would they be utilized in the field? Naturally, the first point that comes to mind is unit and front line location; this is of great importance since speedy troop location increases materially the tempo of operations. In offensive operations in towns and cities the location devices would be of unquestioned value. The locator devices would permit offensive operations under conditions of very low illumination since troop location and control could be maintained. Locator devices would aid supporting arms in location survey and in the rapid adjustment of fires since the location of batteries and front lines could be readily ascertained. These are just a few of the uses of the proposed location devices; there are many others.

The Locator Co of the All-Weather Support Bn would contain an Electronic Locator Platoon, an Electronic Control Platoon would contain the computers and beacons required to give troops locations. The beacons could be either issued to subordinate units, carried and operated by those units, or personnel and equipment could be assigned to subordinate units. Electronic control teams from the Electronic Control Platoon could be assigned to subordinate units to assist commanders in maintaining unit control under conditions of low illumination or low visibility. Mechanical aids and operating personnel of the Mechanical Aids Platoon should be available as required for assignment to subordinate units.

As was noted earlier, the All-Weather Support Bn is merely a vehicle for discussion. It is very probable that the equipment under discussion could be well integrated into conventional units rather than being assigned to a special unit; in either event, troop location and guidance and control would be materially improved.

A complementary development to guidance and control devices is the perfection of battlefield illumination. Considerable progress has been made in the development of illumination equipment and the techniques for its employment have been tested in Korea. As visualized in the concept of all-weather operations, light units would be an important

component of any all-weather unit.

A plan for the employment of battlefield illumination provides the following: a.) Indirect illumination of the general battlefield area — "artificial moonlight." b.) Direct illumination on unit objectives or on enemy installations. c.) Indirect illumination on rear areas to improve logistical control.

The concept for the utilization of direct illumination and the history of its development was presented in some detail by MajGen J. F. C. Fuller in his article, "The Strange Story of the CDL Tank" (GAZETTE, April '52). According to Gen Fuller, the development of battlefield illumination is certainly not a new subject. The British have given considerable attention to this subject. They have developed special illumination equipment including the CDL tank which is an armored, armed, light generating vehicle capable of furnishing mobile battlefield illumination. Its primary task is to provide direct illumination on unit objectives or on enemy personnel and installations. The CDL tank's great advantage lies in its blinding light coupled with its armored mobility.

The uses of infra-red light or "black" light are too well known to warrant detailed discussion here. The utilization of infra-red light for battlefield illumination is limited only by technical development at this time. When it is adequately developed, it will be an essential adjunct to other means of battlefield illumination.

Means of generating both "white" and "black" light would be incorporated into the Light Co of the All-Weather Support Bn. This company would contain one or more platoons of antiaircraft-type search lights, one or more platoons of CDL tanks and one or more platoons of infra-red light devices.

While the increase of illumination of the battle area is of great importance, it is occasionally desirable to decrease visibility. This may be desirable if the enemy has air superiority, fire superiority, or controls key or dominating terrain. Active means should be used to overcome enemy superiority whenever possible, but when this is not possible, the effectiveness of the enemy's superiority must be reduced by other means. This can be accomplished, in part, by denying him observation. It must be realized, however, that there may be an accompanying reduction of friendly observation. The decision to use area smoke in offensive operations to reduce visibility will depend, in large measure, on whether the sacrifice of friendly observation will be off-set by a reduction in the effectiveness of enemy supporting arms and air support.

Deception is the agent of surprise; obscuration is the catalyst of deception. If deception is desired, smoke obscuration of the battle area will often make it possible. Planned limited-visibility offensive operations can be accomplished by all-weather units.

As in the case of battlefield illumination, the idea of large area smoke operation is not a new subject. However, prior to WWII, equipment was not available to generate smoke in mass. With the development of the mechanical smoke generator the possibility of utilizing smoke in mass has been realized. Although the generator and the resultant techniques were developed primarily as a means of passive air defense, a study of its potentialities reveal that it offers great possibilities for offensive employment by ground forces. The chief obstacle to its employment in offensive operations at this time is the difficulty of control upon release and the lack of guidance and control aids available.

The Smoke Co of the All-Weather Support Bn would consist of approximately 48 generators with a capability of obscuring an area approximately 2 miles by 8 to 15 miles depending on the weather and the terrain. Since the control of smoke is the critical element in its employment, the Smoke Control Center of the company would be charged with its dissemination. This control center could operate either independently, as a part of the All-Weather Control Center, or as part of the FSCC. In any event, its operations would be closely supervised by the G-3 and would be in consonance with planned operations.

The control and co-ordination of all-weather operations must of necessity rest with the senior commander. It is obvious that company, battalion or regiment cannot employ night illumination or area smoke without affecting the operations of adjacent units. Thus, the division or corps commander will retain control of the All-Weather Support Bn.

The agency exercising all-weather co-ordination for the commander could be the All-Weather Support Center. This center would be the agency through which the commander would plan and co-ordinate all-weather operations. Its operations would be under the immediate supervision of the G-3 and would be co-ordinated with the FSCC.

It is believed that all-weather supporting elements—light, smoke and guidance—would be furnished subordinate commanders for employment in their all-weather offensive operations. The All-Weather Support Center would merely co-ordinate the employment of the all-weather aids and furnish commanders timely unit location.

The All-Weather Support Bn should have the following characteristics: a.) Enable ground units to conduct a variety of operations under a maximum range of visibility conditions. b.) Enable ground units to conduct operations with greater speed. c.) Give ground units the ability to exploit their flexibility and mobility to the maximum.

Although we are interested in endowing the Marine division with a 24 hours-a-day, 12 months-out-of-the-year operational capability, we must bear in mind that the division is amphibious. Everything that is done to improve it must have as its objective the idea that we will come out with a better amphibious organization. The Marine division that can operate in an extreme range of climates and temperatures, over a wide variety of topography, at any time of the day or night will have unquestioned value in amphibious operations.

The concept of all-weather operations for landing forces as presented is a theoretical study. Certain aspects of the concept have been battle tested; other elements are as yet untried. The concept is not a "cure all." It does not make it possible for troops to fight 24 hours a day, day in and day out but, if proven sound, it will make possible the conduct of offensive operations in fair weather or foul, night and day. USMC

To get full use of the Antitank Assault Platoon it must be made more versatile. Its man-load must be reduced and it must be provided with auxiliary weapons

DURING THIS DAY OF RABID DISCUSSION on the two-up-two-back square organization we should pause in retrospect and ask ouselves if we have exhausted all of the potential of our present triangular organization.

Have we exploited our present T/O properly or have we fallen into the rut of habit, going down the line doing what has been done before?

To me it seems there is one unit that has been neglected in the past and has not been employed profitably. The day may come when it *must* be employed properly and profitably, and if so, this unit, like a limb long encased in a cast, may be atrophied and unable to carry out its mission.

I speak of the Antitank Assault Platoon—one of the most colorful and daring of our support units organic to the infantry.

The AT platoon is capable of delivering valuable support in many

10th Platoon INFANTRY BATTALION

By Capt Eugene J. Paradis

combat situations. Consider its power—the 3.5-inch rocket, in addition to its penetration potential, has a blast equivalent to a round of 105mm arty ammo. But because the ATs haven't been used a great deal in the past, commanders are wary of using them and usually turn to other supporting arms. The AT platoon is held back to be employed only as a last ditch, do-or-die measure.

But captured enemy documents from WWII tell another story. Major Y. Horie, of the Imperial Japanese Army, relates in detail in his article on the *Defense of Chichi Jima* (GAZETTE, July '53), the enemy commander's concern over the effectiveness of these assault units.

Unlike other supporting arms the ATs do not deal with the enemy at long ranges. Skillful co-ordination between flame and demolitions in conjunction with long range powerful rockets enables this small, flexible organization to close with the enemy and destroy him and his positions. Like the cold steel of the bayonet, this type of attack puts the finger of fear on the enemy with close combat on a personal scale that is inescapable — the range limitations of the weapons of AT platoon make it so. They must be employed so they have a maximum amount of surprise, coupled with accuracy, to be effective.

However, the ATs have often been held back because they have been pictured as highly specialized units capable of participating in special missions only. But even though the two primary missions of the Antitank Assault Platoon are synonomous with its name—highly specialized it's true—it is capable of executing valuable secondary missions. The secondary mission will be discussed later; let us first examine the 2 primary missions of this unit.

The AT commander is the battalion's antimechanized officer and is considered a member of the Bn CO's special staff. As such, he is concerned with antimechanized defense of the battalion. By continual reconnaissance—map, visual and physical — he evaluates possible enemy mechanized capabilities and formulates his plan. Then, anticipating enemy activity, he co-ordinates the employment of all available antitank weapons in his sector of responsibility with the efforts of his platoon.

Employment of the ATs might be considered as a continuous mobile defense. It is a passive defense, only attacking when attacked. The platoon commander plans to place his platoon in blocking positions to counter any enemy mechanized thrust into the battalion section. He strives to set his punch, by out-thinking the enemy and having the path of advance blocked.

On the surface, tactics of this sort would seem to call for some crystal ball gazing or a sorcerer's MOS. Not so—the AT platoon commander will soon learn to analyze terrain from a tanker's point of view and will recognize good approaches in a short period of time. Watching his own tanks maneuver will greatly further his education.

Proper employment of his unit is his greatest concern. To insure having his men at the right place at the right time is a perpetual problem; no other platoon in the battalion is responsible for physical coverage of so large a front.

A stock solution to this problem of covering a large front with one unit, has been to attach AT sections to the rifle companies. This method of employment does have the advantage of providing an AT section of 2 rocket launchers anywhere along the battalion front in each company sector. However, dividing the unit weakens the lethal punch it was designed to deliver. With the split, the AT commander loses complete control of his outfit and has placed an additional burden of control on the already heavily burdened company commanders.

Of course, splitting the unit by attaching the sections to companies is the easy way out for the AT platoon leader—it makes the job a soft touch. Attachment, except in certain situations where it is considered mandatory, should be avoided as long as possible.

Employment as a unit will enable the AT platoon leader to deliver his best blow against mechanized attacks. In addition, it will be easier for the ATs to fulfill normally assigned secondary missions. Employment of the entire platoon will give the AT commander greater control and flexibility anywhere in the battalion zone of action. But he must

ATs — in the logical enemy mechanized avenue of approach

remember, that if an attack materializes along the battalion front other than where it was anticipated, time will be required to move his unit into position—and time in combat can be a precious commodity.

To sum it up, the AT platoon must be both flexible and highly mobile. Let's examine some of the factors that can influence the flexibility and mobility.

The AT platoon is composed of 3 sections and a platoon leader. The sections are complete in themselves and may operate independently from headquarters and the other sections for limited periods of time — the duration of the independent action period being dependent upon resupply. Although the ATs are expected to be as mobile as other infantry units, few of the others carry such a man-load.

The 3.5-inch rocket launcher weighs about 14 pounds, one round weighs 8½ pounds and each man is required to carry 4 rounds. The flamethrower, loaded and prepared to fire weighs approximately 72 pounds. How can this load be reduced? The rocket launcher breaks down into a fairly reasonable package and it is constructed of as light a metal as practicable. We must look to the ammunition, then, for a reduction in weight.

American engineers and manufacturers should be capable of solving this problem. For instance—we could sacrifice a small amount of range and penetration power. It hardly seems logical to carry a round capable of penetrating 11 inches of armor when most enemy tanks only have 6 inches of plating.

Nor is it necessary to have a round capable of 1,000 yards range when normally 500 yards will suffice. Many of you will probably quote situations where the added range and extra penetration powers were justified, but we must remember that those heavy rounds are bulled up to the launching site by manpower. So when we get around to making up specifications for the ammo we must consider 2 categories: 1) is it nice to have? 2) is it necessary?

The ideal solution, of course, would be to develop a lighter round with the same penetration power and range of the present round. If we can develop such a round, fine! If not, we must compromise.

One added thought on the platoon's antitank mission. During the period the ATs are envolved in strictly AT missions the flamethrower is just so much spare gear. When rapid displacement and movement is necessary, the heavy flamethrower merely serves to slow up the deployment and it contributes little or nothing to the accomplishment of the mission. Why not provide an extra rocket launcher per squad to be used as an auxiliary weapon when the platoon embarks on an antitank mission? The flamethrowers could be carried in the organic transportation temporarily, then taken up again when needed. The temporary substitution would increase the rocket firepower of the individual sections and step up their mobility.

During the landing phase of our amphibious operations we will probably run up against the mutually-supporting, permanent-type installations. At this point the platoon will earn its bread and butter, and rightly so, for this is the type of operation it was designed for.

During the assault, the flamethrower and demolitionsmen in the platoon come into their own. They are supported by the rocket launchers and other members of the platoon who set up a base of fire to cover them as they move into position. Assaulting distance with the flamethrower is between 20 and 40 yards, depending on fuels used and the wind direction. Assaulting distance for the demolitionsmen is zero —the charge must be hand-carried to an opening in the emplacement. Co-ordination must be perfect to carry out these missions successfully.

Flame is one of the world's oldest weapons and in our search for new weapons or the improvement of the old we cannot eliminate the flamethrower from our T/E. However we must find a way to increase its range and decrease its weight.

The solution could lie in a 2-man load that could be loaded and assembled just prior to firing. But a more stable fuel is needed. Napalm, if not used shortly after it is mixed, will solidify, making it impossible to pass it through the gun group. Gases might be substituted for the present fuel and the weapon might be constructed of some of the newer, lighter metals. There's a great deal of work to be done in this field.

During WWII, the AT Assault platoon reached an all time high in getting workouts on the secondary portion of its mission—destruction of enemy fortified positions. The enemy was securely dug-in on his fortified islands and elaborate bunkers, trenches and tunnels were the

order of the day. These elaborate fortifications afforded the ATs the opportunity of perfecting and developing their tactics along the bunker-busting line. Island-type warfare did not lend itself to aggressive tank employment.

In the early stages of the Korean war the knocked-out tanks along the Naktong-Pusan perimeter and the Inchon-Seoul highway attested to the fact that the enemy was using his armor. But though the enemy mechanized capabilities in Korea were generally good, the AT platoons had very little chance to prove their worth. Platoon commanders laid their plans, but after the first few months of operations few enemy tanks appeared on the scene.

So with the enemy conserving his tanks, or losing them to air or artillery, and with few or no positions to assault, much of the employment of the AT platoon became one of a blocking or passive nature. Rather than meet the enemy aggressively as the platoon was accustomed to do in WWII, it was forced to wait for an enemy who never came. Occasionaly the ATs assaulted positions but more often some other supporting arm was assigned the job.

As a result of this inactivity the ATs felt they were contributing little toward the battalion effort and morale dropped quite low. To alleviate this situation, AT commanders cast about for new means of contributing to the general effort.

One secondary mission presented itself and the ATs grabbed it. It was the old job the ATs handled when they were the pioneer platoon of the battalion—clearing and laying of minefields and demolition of bridges and roads. The engineers were overburdened with work and any time the battalion could help itself the engineers were grateful. Working on this secondary mission, the ATs were able to speed up the battalion's movement.

Now I propose another secondary mission for the AT platoon. As the 10th rifle platoon in the battalion it could act as a battalion reserve in certain critical situations. Many times in the past, battalion COs have faced a situation where all rifle units were completely committed. With that uncomfortable "no reserve" situation confronting him, the battalion CO often solved the problem by designating a platoon from one of the companies as his reserve. This solved the battalion COs problem, but it left some company commander holding the sack.

This secondary mission could be given to the ATs without reducing their operational efficiency. Only minor changes in equipment would be necessary. The new T/Es call for all enlisted below the rank of MSgt to be armed with M1 rifles. These, along with one machine gun added to each section would provide sufficient firepower. The MGs would be manned by the flamethrower operators and their assistants who would switch weapons according to the mission and tactical employment of the unit. The weapon not in use could be carried on the organic vehicles and interchanged as needed.

The AT platoon is also especially well suited for tank-led patrols or for conducting small tank-infantry operations because they are as familiar with tank problems as the tankers themselves. Continually studying the capabilities and limitations of tanks for the purpose of destroying them, the members of this platoon can recognize logical enemy positions and be prepared.

In addition, this role of conducting tank-infantry operations will usually place the ATs in the logical enemy mechanized avenue of approach. This is in accord with the primary mission of the platoon, but in this situation the ATs will be able to add the firepower of the tanks.

The recommended modifications of the AT platoon will make it a flexible and versatile unit. But I do not advocate that any of the secondary missions proposed take precedence over the primary mission of the ATs. In any amphibious operation the infantry is bound to run up against positions that must be reduced. In addition, the infantry must have antimechanized help available at all times or it will suffer.

But as it stands today the AT Assault Platoon is a highly specialized unit. To use it fully, it must be made more versatile and there's only one road to that end. Its man-load must be reduced and it must be provided with auxiliary weapons. USMC

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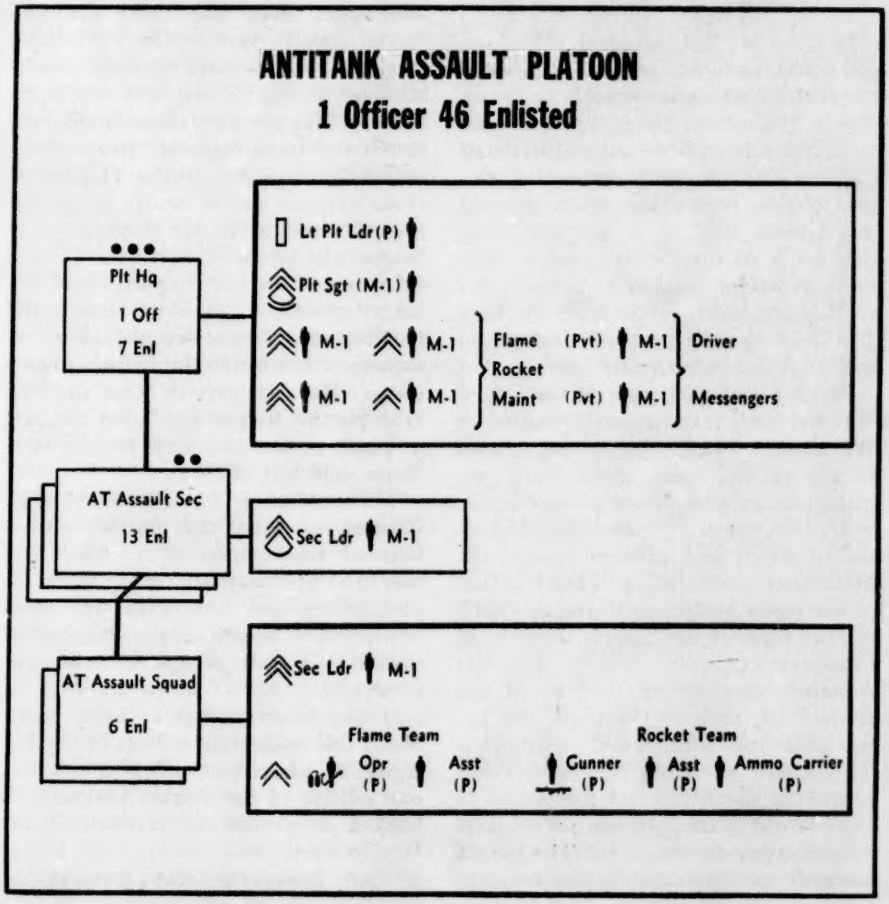

passing in review

BOOKS OF INTEREST TO OUR READERS

Combat Prep Textbook . . .

REALISTIC COMBAT TRAINING — By LtCol Robert B. Rigg USA. Harrisburg, Pa.: The Military Service Publishing Company. 239 pages with photos and diagrams. $3.50

There is no tougher or more challenging profession than that of a combat arms leader. You cannot effectively teach men to kill on a battleground without being tough on the training ground. The "lean and mean" attitude must prevail. You must make it contagious so that men and units take singular pride in their military toughness and ability to endure.

You can kill or maim men very easily if care, skill and judgment are not used in realistic combat training. Applied in training, if not carefully supervised, some of the concepts of this type of training are very dangerous. Conversely, however, you can save the lives of American fighting men and generate more effective killing power by the conduct of such exercises.

The text of *Realistic Combat Training* is a belief and a practiced creed. The lines written between its covers are not meant to be read alone, but are to be lived and practiced by those who choose to prepare realistically for life's most brutal contest. The book and the material included therein, spring from the pronounced reaction of several thousand men the author has trained under conditions of combat realism and from his own deep convictions of the necessity of such training.

Two hundred and thirty-five pages of this book are devoted to teaching military leaders, both officers and NCOs, the art of making training problems truly realistic. Illustrated in prose, photographs and schematic drawings are the means to make men tough and combatwise, through constant pressure and the devices used to achieve that pressure. The creation of training battlefields and combat towns, targets which will record hits and which will drop when hit, the manufacture and employment of a training A-bomb, and the safety and control measures necessary to make all these training aids effective, are discussed in detail. Finally, in a neat, concise package the author outlines a typical combat reaction test, in this case a Tank Leader's Reaction Test Course, taught at Fort Knox, Ky during World War II, and which is complete with grading system, examination sheets and lesson plan.

The contents of this little book hold a wealth of sound training ideas and exercises for those officers and NCOs who want their men to be deadly efficient in their chosen profession, and who want those same men to stay alive when the final test, that of actual combat, is forced upon them. This book is an excellent ready reference, and is as appropriate for the man who has seen ground combat in two wars as it is for one who has never seen or heard anything more violent than a training film. *Realistic Combat Training* is more than required reading. It should find a permanent place on the bookshelf of every ground officer or NCO who calls himself a professional soldier, or who ever aspires to this noble ambition.

Reviewed by Maj G. P. Averill

Strange, Off-beat Warfare . . .

PSYCHOLOGICAL WARFARE, 2d Edition — By Paul M. A. Linebarger. Washington, D. C.: Combat Forces Press. 318 pages. Illustrated. $6.00

Dr Paul M. A. Linebarger is the psychological warfare expert who addressed the senior and junior schools at Quantico in 1950-52-53. He is the same master of the subject who outlined in detail Chinese Communist brainwashing tactics months before they even entered the Korean war. It is not surprising that he is so completely familiar with PsyWar, having worked at it both as a civilian and Army officer from the lofty JCS level, to preparing spot leaflets immediately behind friendly lines.

Major Linebarger, now at the School of Advanced International Studies in Washington, has in this second edition of an earlier work, given both the casual reader and serious student a picture of the use of PsyWar from Gideon's use of lamps and pitchers against the Midianites (1245 BC) to FECOM's use of surrender leaflets in Korea in 1953.

This book is not merely a series of historical examples. Far from it. It contains basic information about the subject, the tools of the trade, the target and the time tested techniques. The author goes into the PsyWar employed by the Allies and the enemy in both World Wars pointing out mistakes and successes on each side. The lessons learned are particularly noteworthy. Speaking of the tough problem of inducing Japanese to surrender during WWII, he says, "To Japanese soldiers, the verbal distinction between *surrender* and *cease honorable resistance* was as important as the difference between life and death. The Japanese would not survive at the cost of their honor, but if their honor were satisfied, they willingly gave up."

Other sections of the book deal with propaganda analysis, intelligence and an estimate of the situation. In the chapter which deals with operations against troops, the reader is given warning concerning the future need for a single chain of command which includes the often divergent subjects of public relations, PsyWar and morale services. The Marine reader will also find in this chapter some familiar material concerning the role of the small unit commander, liaison requirements, leaflet discharging methods and descriptions of tremendously successful surrender operations on Okinawa.

The latter part of the book is devoted to the period after 1945 in what Dr Linebarger calls the cold war and "seven small wars." He shows the propaganda techniques used and results achieved during fighting in Korea, Indochina, Philippines, Malaya, Indonesia, Israeli and India-Pakistan. In the Indonesian-Dutch war and the Philippine-Huks war, the author clearly points out how the intelligent use of propaganda helped win for the victors.

In one of his last chapters, Dr Linebarger gives you his ideas, some quite startling, as to what we should do to improve our strategic information operations. He also gives us what the PsyWar picture is now and what avenues of attack we should take to be successful in the cold war of today.

The volume is liberally filled with illustrations from the author's collection of propaganda items which he uses to illustrate different types of propaganda and how each was used. Marines who fought in the Pacific during WWII will recognize some old favorites.

If you have wanted to know more about this fascinating subject of Psychological Warfare, you will find this second edition of PsyWarrior Linebarger's book a comprehensive, readable, entertaining start.

Reviewed by LtCol L. E. Hudgins, Jr.

Emaciated Bear . . .

VORKUTA — By Joseph Scholmer. New York, N. Y.: Henry Holt and Company. 302 pages, maps, glossary. $3.75

During recent months, Vorkuta, a Russian slave labor camp located a hundred miles north of the Arctic Circle, has received an unaccustomed amount of publicity from its former inmates. In the American press Mr John H. Noble's accounts of his imprisonment at Vorkuta have received wide circulation. His observations serve to confirm the details contained in Dr Scholmer's book.

Physically, Dr Scholmer would have led a much healthier life had he confined his activities to the solution of medical problems. During Hitler's regime he was a member of the Communist movement and in "the prisons of the Gestapo had learned how to live on terms with bedbugs and lice." After WWII he was rewarded with a responsible position in the Central Health Authority of the Russian Zone of Germany. This ended with disillusionment and arrest in May of 1949. During the following year, while playing host to the insect population of a Russian prison in Berlin, he attempted suicide, signed two false confessions admitting espionage activities and received a 25-year sentence in a labor camp, imposed, he was informed, by the Supreme Court in Moscow. In June of 1950 he boarded a prison train in Germany and "after many days" debarked at Vorkuta, where some 105,000 prisoners, 120,000 "free" departees and 12,000 guards, officers and officials produce, according to the author's estimate, about one-twelfth of the entire coal production of the Soviet Union.

In this book the author describes the details of his confinement, and recounts the background and experiences of his fellow prisoners. He demonstrates his political acuity by his observations on the weaknesses inherent in the Soviet economy, government and ethnological composition. According to his estimates, some 15 million persons are engaged in forced labor. This labor force constitutes an essential component in the industrial life of the Soviet Union without which industrial production would be brought to a standstill. It is the author's view that "the Kremlin is a prisoner of its own prison system." The mild methods employed by the officials in breaking up a Vorkuta strike were not a reflection of humane propensities, but rather a reluctance to take violent action for fear it would set off a chain reaction of violence and rebellion. It is his view that the conditions in the forced labor camps, the overburdened existence of Soviet industrial workers, the discontented farmers and the traditional enmity of non-Russians toward the government in Moscow all combine to create an atmosphere receptive to widespread uprisings and civil war.

Dr Scholmer looks to the United States for positive leadership in the fight against communism and advocates that we attack the Soviet with its own weapon of subversive propaganda. He believes that the West failed to properly exploit the strikes and uprisings which occurred on 17 June 1953 in East Germany and abhors the timidity which characterizes our dealings with the Russians. His view is that each side is "afraid of the nonexistent courage of the other."

It should be clear from the above that this book is more than the mere recital of brutality, suffering and hope which in this country is difficult to comprehend. The value of the book rests on the fact that it was written by one with a background which enabled him to evaluate those things which he saw and heard. Although his evaluations are of necessity flavored by the trying experience which he endured, they deserve attention because of this fact. Certainly the author has had a greater opportunity to know whereof he writes than the vast majority of Western experts whose gospel is based on a more distant view.

Vorkuta is easy to read. The author's marked ability to blend action and philosophy results in an account which is both interesting and informative. As seen through the window created by *Vorkuta,* the Russian bear appears emaciated.

Reviewed by LtCol J. F. Lawrence

℞ for Western Democracy . . .

THE PUBLIC PHILOSOPHY: On the Decline and Revival of the Western Society — By Walter Lippmann. Boston: Little, Brown and Company. 189 pages. Indexed. $3.50

This essay is the latest in a remarkable series on political science. The author, Walter Lippmann, is beyond question our outstanding thinker and writer in what we may call the substratosphere of the subject—that region wherein the mystical and the philosophic and the practical are nicely blended and balanced. His experience in the field of international relations, as a participant and as an observer, began in the First World War. This long experience, fortunately for us, is complemented by an ability to write exactly and lucidly. His style is clear and sometimes almost astringent, and it has a precision which might well be emulated by other writers in the field. He is at his best in the present work, which should be required reading for all Marine Corps officers.

Mr Lippmann has been convinced for years that the Western Democracies have been living dangerously, in an international sense. His belief is that for about 40 years there has been what he calls a "functional derangement" in the power of government. He describes this as an abdication of power by the executive in favor of the legislative, and a subsequent abdication by the latter in favor of the electorate. The process began, he believes, about 1917, when the losses, human and economic, of the war began to be fantastically high. The burden of them cracked the supporting structures. In the East, the people arose and reconstructed their governments, reserving the power of governing (so they thought) to themselves. In the West, there was a voluntary passing of power from the executive to the legislative (a process which is perhaps farthest advanced in France). According to the author, this act made it possible to continue the war — but to continue it on terms which made impossible any realistic postwar settlement. The people of the United States, for example, had to be assured that the war was only a crusade to make the world safe for Democracy, and that it was being waged against a completely inhuman foe. And against that background, the executive found it impossible to negotiate a just and workable peace settlement.

For the power of governing, which includes that of conducting foreign relations, had passed on to an entity which was congenitally incapable of wielding it. Mr Lippman points out that what might be called the "reaction time" of the electorate is so slow, and the reaction itself is of necessity so subjective, that it is forever out of phase with the fast pace and objective nature of international events. And so large and lethargic is this electoral mass, and so great is its inertia, that it can express itself usually only by a categoric *yea* or *nay*. Its response, says the author, is generally in the form of a veto, especially if the issue is one of departure from current procedure.

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In discussing the sovereign people who, as he says, now possess power which they cannot properly exercise, the author raises two interesting points. The first of these is that a dictum by the electorate in any given case is not of necessity the will of the people.

In other words, if the electorate is 64 per cent of the population (as it recently was) and if the voters in an election number 63 per cent of the electorate (as they recently did) then the deciding vote may be cast by 20 per cent of the population. Keeping in mind that the 63 per cent figure is a high one by past experience, he asks whether the decision as reached by a small and by no means responsible minority is indeed the will of the people. The question answers itself.

The second point is closely connected with the first, and here we see for the first time that ingredient of mysticism which gives such force and luminosity to Mr Lippmann's writing. He says that when we speak of the "people" we are, in fact, speaking of two distinct things. One of them is the electorate—tied, as we have seen, to the immediate, the present, and the special interest. The second is that great cylinder in the space-time continuum which is composed of all the past, present and future generations of the country. He contends that we have a responsibility to the past as well as to the present—and above all, to the future. For, as he says,

"That is why young men die in battle for their country's sake and why old men plant trees they will never sit under."

Mr Lippmann's suggested remedy for the malaise which he sees is that once more the great public philosophy be communicated to the democracies. This philosophy, whose central tenet is that there is a natural law, superior to any mortal or manmade law or to the sum of them, gave rise to the "traditions of civility" which made possible the democracies of the West. For they were established on the foundation of all that was good before them, whether that good was plebeian or aristocratic in origin, in contrast to those democracies which were founded upon the Jacobin philosophy, which cut sharply and cleanly from everything whose proletarian origin could not be proved.

The author's prescription gives little room for enthusiastic hope. But his work is one which will provoke and stimulate thought and discussion. And perhaps herein there does indeed lie hope for the patient. For thought and discussion engender their like and if we continue to think clearly, we shall come safely through the illness.

Reviewed by LtCol J. L. Zimmerman

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